

'It's Important to Know In Time'

Member Associated Business Papers, Inc.; Audit Bureau of Circulations.

The Newspaper of the Industry

Air Conditioning & REFRIGERATION

Reentered as second-class matter October 3, 1936 at the post office at Detroit, Michigan, under the Act of March 3, 1879. Trade Mark Registered U. S. Patent Office. Copyright, 1945, by Business News Publishing Co.



'Written To Be Read on Arrival'

Issued Every Monday at 5229 Cass Ave., Detroit 2, Mich.

JAN. 15, 1945

Vol. 44, No. 3, Serial No. 826 Established 1926.

Inside Dope

By George F. Taubeneck

Punch-Line
Everybody Was Wrong
Quoting the Tribune
On Vet's Hospitals
Hospital Needs
Small World

Punch-Line

Gag-of-the-week is the remark now going the rounds:

"Might as well spend it now, because any day the government will announce that all money was cancelled at midnight!"

Everybody Was Wrong

This column is on the verge of changing its name again. For the last several years "Inside Dope" has reported trends in advance of events.

The reports and prognostications have been based on conversations with highly placed government officials, and on extraordinary Washington contacts built up, through one means or another, during the last dozen years.

So long as these Washington contacts were giving us "inside dope" on what the government intended to do to the people of this country, our predictions held up beautifully.

But when they told us what they confidently expected to do to the people and armies controlled by Nazi Germany, those predictions have fallen down woefully.

Every man in government service today—from President Roosevelt and General Marshall on through Jimmy Byrnes and General Eisenhower—told us that Germany would be conquered before now . . . long before now.

They were wrong, and thus everybody is wrong.

So now it's a new deal, but that doesn't mean that the New Deal (quite a distinction!) knows what it's doing—even in foreign affairs.

For awhile, then, friends, this column will change its spots.

Quoting the Tribune On Vet's Hospitals

Leave us start, to get in the groove with Archie, on the subject of air conditioning in hospitals for wounded veterans of this war.

A recent issue of the Chicago Tribune had this to report:

Hospital Needs

A congressional committee which has been investigating the scores of hospitals already established to treat wounded soldiers has reported that for the most part the soldiers are getting the best of care. It did find some instances of maladministration, which are excusable in a rapidly expanding organization if they are corrected as quickly as they come to light.

One thing that the committee did uncover, however, should give every citizen pause when the proposal to federalize medicine and hospitalization for civilians is brought forward. A rather wide lack of air conditioning was discovered in hospitals where it should have been installed. Operating rooms were found so hot as to be unbearable and in orthopedic wards, the report says, the suffering of patients in plaster casts were intensified during hot weather. The congressmen attribute the lack of air conditioning where it is needed to the army's system of deciding where it should be installed.

"It seems," the report said, "that for determining whether air conditioning is necessary the war department has theoretically divided the

(Concluded on Page 4, Column 1)

Timmerman Raps Idea of Radical Change In Postwar Refrigerator Calls 5-Year Warranty a 'Blessing'

WASHINGTON, D. C.—A down-to-earth view of the postwar household refrigerator, hinting, for example, that the five-year warranty will be retained and that serious service problems may be encountered in home freezer units, was presented by W. M. Timmerman, commercial engineer of General Electric Co., in a talk before the January meeting of the Baltimore-Washington Section, American Society of Refrigerating Engineers.

Debunking some of the extravagant claims for the postwar household refrigerator made in recent popular advertisements, Mr. Timmerman declared that the idea that the war, through some form of magic, has advanced the refrigerator to an ideal position was entirely baseless.

It is true, he said, that the war activities have not been a total loss to refrigeration engineering and

manufacturing. They have put engineers in a position to make contributions to the industry.

"Postwar, however, we will use the same equipment in general, but some materials will be different," he said. "Aluminum, for example, may be cheaper, but its use still presents a lot of problems. The refrigerator is built to have a life of at least 15 years, and this thought must be borne in mind by the engineers when using different materials."

"Much has been heard about plastics in the construction of a refrigerator, and this is nothing new," said Mr. Timmerman. "We can build a plastic cabinet, and they have been built, but whether one can be built better and cheaper, is, again, another problem."

Plastic doors are now being used, and they have presented some problems. In other words, explained Mr.

(Concluded on Page 4, Column 5)

Postwar Standard on N.E.W.A. Cancels Commercial Units Set Annual Meeting

WASHINGTON, D. C.—Issuance of a new Commercial Standard for Commercial Electric Refrigeration Condensing Units, effective for new production six months after official announcement of cessation of hostilities, has been announced by the National Bureau of Standards.

Acceptances have been received from a "satisfactory majority" of manufacturers, distributors, and

Full text of the new Commercial Condensing Unit Standard is to be found on pages 21-25 of this issue.

users so that the Commercial Standard could issue, declared I. J. Fairchild, Chief, Division of Trade Standards.

The new Standard is a revision of a former one, the revision being submitted by the Standard Refrigeration Compressor Association.

Manufacturers who "accept" the Standard will build their commercial condensing units in accordance with its provisions. In cases where an industry Standard is accepted the manufacturers often adopt some standard labeling procedure to indicate that equipment has been produced to conform with the accepted Standard.

51st ASHVE Meeting In Boston Jan. 22-24

BOSTON—Fifty-first annual meeting of the American Society of Heating & Ventilating Engineers, to be held at Hotel Statler here Jan. 22 to 24, will feature four technical sessions presenting a wide variety of engineering papers.

Meetings of committees have been scheduled for Sunday, Jan. 21, and Monday morning, with the technical meetings planned for Monday afternoon, Tuesday morning and afternoon, and Wednesday morning. Entertainment includes a get-together supper Monday evening, the annual banquet Tuesday, and several special events for the ladies.

Among the technical papers to be presented are "Altitude Chamber for Study of Heating and Air Conditioning Problems," "Summer Weather Data and Sol-Air Temperature—Study of Data for New York City," "Control of Industrial Atmospheres (Dusts, Fumes, Mists, Vapors, and Gases)," and "Mine Ventilation and Its Relation to Health and Safety."

Big Crowd Attends, But Order-Taking Is 'Out' at Mart

CHICAGO—Big store buyers and small store proprietors at the Winter Furniture Mart had to be satisfied with elaborate demonstrations of what they might sell in the way of appliances postwar and how they can display and sell it, but with very few exceptions there just wasn't any order-taking being done.

Both buyers and exhibitors had planned months ago, to make the Mart the "kickoff" for the "year of

More details on the showing at the Winter Mart may be published in a future issue of the News.

reconversion" on appliances, but the swift change in the war outlook in December put the lid on chances for much reconversion to civilian goods in 1945. However, most of the buyers came along anyway, and since the exhibitors hardly had time to change their plans, the buyers got a pretty good picture of "what might have been."

However, it was said that exhibitors were cautioned not to display appliances or facsimiles of appliances that they hadn't made before the war. One manufacturer got its signals mixed on this stipulation and had to remove mock-ups of some refrigerators it showed.

Only order placing was for some essential cooking and heating appliances. (Concluded on Page 29, Column 2)

Bratten Outlines Frigidaire View Of Freezer Sales

DAYTON, Ohio—"Some of the rosy predictions of home freezer postwar volume, should be taken with a grain of salt" is the opinion of P. M. Bratten, general sales manager of the Frigidaire division, General Motors Corp.

Mr. Bratten pointed out that figures released in the press and periodicals indicated annual potential markets ranging all the way from 200,000 home freezer units to over 2 million units.

"Certainly," he declared, "there must be something wrong with these

(Concluded on Page 29, Column 1)

Overseas Sergeant Fears Financial Collapse From '25-Year Terms' Plan

Hq. 319 Bomb. Gp. (Med.)
APO 650 c/o Postmaster
New York City

Gentlemen:

In regard to the article published in the Aug. 28 News on the subject of the "Complete Home," I have the following comments to make in regard to adding household appliances to a system of "25 years terms." But first of all let it be said that I am no authority on the subject of finance; the following statements are my own. Whether anyone else agrees with them or not I don't know.

The plan sounds excellent for an immediate stimulus for the industry, but to find any continued improvement seems beyond the scope of mathematics. The only result I am able to get is just the opposite effect.

Loss of purchasing power. Purchasing power seems to be what is left of the consumer's income after deduction of taxes, immediate necessities, and mortgage payments. Mortgage carries with the purchase price a percentage of interest which eats into the buying power at the rate of one half of the annual rate of interest on the cash purchase price multiplied by the length of time of the mortgage.

Thus for the 25-year plan at, we will say, the low rate of 4%, it adds up to 50% of the original purchase price (2 x 25 = 50) so that for every \$100 worth of goods sold by this plan, the loss of purchasing power increases proportionately.

(Concluded on Page 17, Column 2)

Draft May Hit 26-29 Workers In Refrigeration

Still on 'Essential' List; Suggest Submitting 42-A's For Essential 4-F Men

DETROIT—Just how are those employed in the refrigeration industry affected by all the recent talk and statements issued from Washington on the manpower situation?

Previously, workers employed in the plants producing goods for the war effort; "refrigeration repairmen"; and "refrigeration engineers"; were listed as being in a critical occupation, and hence eligible for deferment—if they were over 26 years of age.

As far as can be determined now, there has been no change in that list. There are some rumors that Selective Service and the War Manpower Commission will soon go over the list for the purpose of reducing the number of occupations listed as essential.

However, the things that may affect the status of the refrigeration worker are these:

(1) The stepped-up draft calls, which will bring 900,000 more men into the Armed Forces through June, will by necessity comb through the lists of deferred workers, especially those in the 26-29 age bracket.

(2) The "work-or-fight" edict of War Mobilization Director James Byrnes may put into the draft pool those who have left "essential" war jobs without the permission of the War Manpower Commission.

(3) Workers who have a 4-F classification in the draft will in all probability find it necessary to have their employers submit the proper form and information to get for them a 2-A or 2-B rating.

Anent this point No. 3, one dispatch from Washington said that

(Concluded on Page 32, Column 1)

Liquid Carbonic Names General Tire Exclusive Freezer Distributor

CHICAGO—General Tire & Rubber Co. has been named exclusive distributor for the postwar home freezer units to be manufactured by Liquid Carbonic Corp. here, and also plans to provide its dealers with refrigerators and air conditioning units, all three lines being marketed under the name "General."

Some 1,200 dealers are currently served by General Tire company, which hopes to have 3,000 retail outlets after the war.

Liquid Carbonic, manufacturer of soda fountains, carbonic gas, dry ice, (Concluded on Page 32, Column 5)

Corey Will Head New Development Firm

ELMHURST, N. Y.—James J. Corey has resigned as chief engineer of Cordley & Hayes Co. to become president of the newly established engineering firm, Refrigeration Development Corp. here.

Complete refrigeration engineering service, including design, development, engineering, and laboratory tests, is offered by the company, which is now negotiating to offer similar service in other cities, announced Mr. Corey, who has been active in the refrigeration field since 1924.



Irving Alter of the Harry Alter Co. got these pictures of officers, council members, and section delegates of the American Society of Refrigerating Engineers at the annual convention in New York. (Left) R. H. Money and C. S. Leopold, newly elected vice presidents. (Right) Carl A. Anderson, Puget Sound Co., Seattle, Wash.; Frank A. Faust, General Electric Co.; William W. Higham, Universal Cooler Corp.



(Left) George Poggen, McCord Co. and Ed Kellie, American Injector Co., Detroit section representatives. (Right) Harry J. Jessel, Milwaukee; A. G. Loeffel, Marlo Coil Co., St. Louis; Prof. J. Mack Tucker, Tenn. U.



(Left) Austin S. Ford, Jarvis Engineering Co., Boston. Henry R. Schlueter, Richmond Coca Cola Co., Richmond, Va. (Right) Leon L. Kuempel, Kuempel Engineering Co., Cincinnati; R. C. Jordon, University of Minnesota; C. B. Priester, Case School of Applied Science.

Gas Ranges May Have New-Type Burners

NEW YORK CITY—A new type gas burner which produces a totally enclosed flame has been developed by the testing laboratories of the American Gas Association for use on postwar ranges, and possibly on water heaters and other gas appliances.

This burner, claims the association, "means greater heating speeds and increased burner efficiency, more positive control of heats for cooking and better range design for compactness and cleanliness."

Shorter than the one now commonly employed, the flame from the new burner is also claimed to be brighter, hard, and clear blue, burning in the products of its own combustion and needing no additional air. This will permit combining the grates and burner to serve as a support for utensils, it is said.

White Distributing Co. Takes New Building

GRAND RAPIDS, Mich.—J. A. White Distributing Co., appliance distributorship, has purchased a two-story garage building here which will give the firm five times more space and permit housing of all departments in the one building, announces J. A. White, head of the firm.

Lines handled include Lenoard refrigerators, Zenith radios and hearing aids, Universal appliances, Sunbeam small appliances, and other products.

Extensive remodeling of the new quarters is planned.

Retailing and Service Businesses Rank High on 'GI' Postwar Plans

One Out of Every Eight Plans To Go 'On His Own'

WASHINGTON, D. C.—The belief that many of the men now in the Armed Forces plan to enter business for themselves after the war, such as appliance retailing, is upheld in recently announced results of a survey conducted among troops in the United States and overseas theaters by the Information and Education Division, Army Service Forces.

One enlisted man out of every eight plans, upon being discharged from the Army, to operate a business or farm of his own, the survey showed. Another 6% of the soldiers are definitely interested in such prospects, but are not certain, while another 25% have vague plans or hopes for enterprises of their own, but are also considering other postwar possibilities, such as going to school, working for some employer, or possibly working for the government.

Seven per cent of the men in the Army plan to operate a business, while 5% plan to operate farms. In general, the soldiers are interested in relatively small enterprises, with half of the 12% having definite plans expecting to invest \$4,000 or less.

A large proportion of those with definite plans are experienced operators, 42% having been independent

operators, and an additional 45% having worked in the same line they plan to enter postwar. Only 13% had no experience.

Retailing and service enterprises account for six of the 10 types of business enterprises to be operated by those with definite plans. Included are: manufacturing and wholesaling, 9%; construction or contracting, 6%; retailing food, 10%; automotive retailing, including repair services, 13%; all other retailing, including eating places, 22%; service establishments, 13%; transportation, communication, utilities, 7%; all other types, 6%; undecided, or no definite answer, 14%.

Only one fifth of those with definite plans say they have all the capital they need, while an additional one third say they will have at least half enough.

The Information and Education Division points out that the survey was conducted several months ago when soldiers were not completely familiar with details of the GI Bill of Rights and its provisions for Government guarantee of 50% of amounts up to \$4,000 borrowed for farms and businesses. As they learn more about the bill, they may change some of their plans, the Army believes.

Certain Aluminum Products Likely To Become 'Tight'

WASHINGTON, D. C.—Aluminum Industry Advisory Committee has been informed by WPB officials that resurgent war demands in the first six months of 1945 might cause a tightening in what was thought to be an easy situation in regard to aluminum.

Chief difficulty, it was indicated, was a shortage of manpower in the fabricating plants, rather than in the supply of the basic metal itself.

Among aluminum products, a tightening up was indicated in sheet and extruded products, WPB officials reported, while rods, bars, rivets, tubing, forgings, castings, and aluminum powder were in sufficient supply.

Mason, Brown and Colville To Handle Freezing Equipment

PHILADELPHIA — Mason, Brown & Colville, Inc., has been established here to distribute freezing cabinets and allied products throughout eastern Pennsylvania and New Jersey.

John H. Mason, chairman of the board of the investment banking house of Janney & Co., is president. Vice presidents include Fenby T. Brown, formerly sales supervisor of the commercial department of J. J. Pocock, Inc., Frigidaire distributor; and Harry F. Colville, formerly New England division manager of Service Station Equipment Co. J. H. Mason, Jr., is secretary of the new firm.

Sporlan Gives You Selective Z Charge for Low Temperature Applications!

Everyone knows that no one charge can give peak performance on all applications. For example, no standard charge will do for ice cream cabinets... farm freezers... home freezers and locker plants. All of these are low temperature applications and in order to give the best possible performance they demand a thermostatic expansion valve that is charged specifically for low temperature work.

That's why Sporlan developed Selective

Charges G-K-U-Z-O-L-C with each charge designed to fit a specific condition. And that's why you should always ask your jobber for a Sporlan Valve with a low temperature "Z" charge for Peak Performance on all low temperature applications.

Sporlan manufactures Solenoid Valves... Solenoid Pilot Controls... Modulating Pilot Controls... Refrigerant Distributors and the only Thermostatic Expansion Valves with Selective Charges.



SPORLAN VALVE COMPANY

3723 COMMONWEALTH AVENUE • ST. LOUIS 17, MISSOURI

Corrosion... sedimentation... rust. All spell failure in a water valve—and all spring from the water itself! That's why PENN designed the new Series 246 Water Regulator so that no sliding parts touch the water. No chance here for those abrasive deposits which cripple ordinary valves.

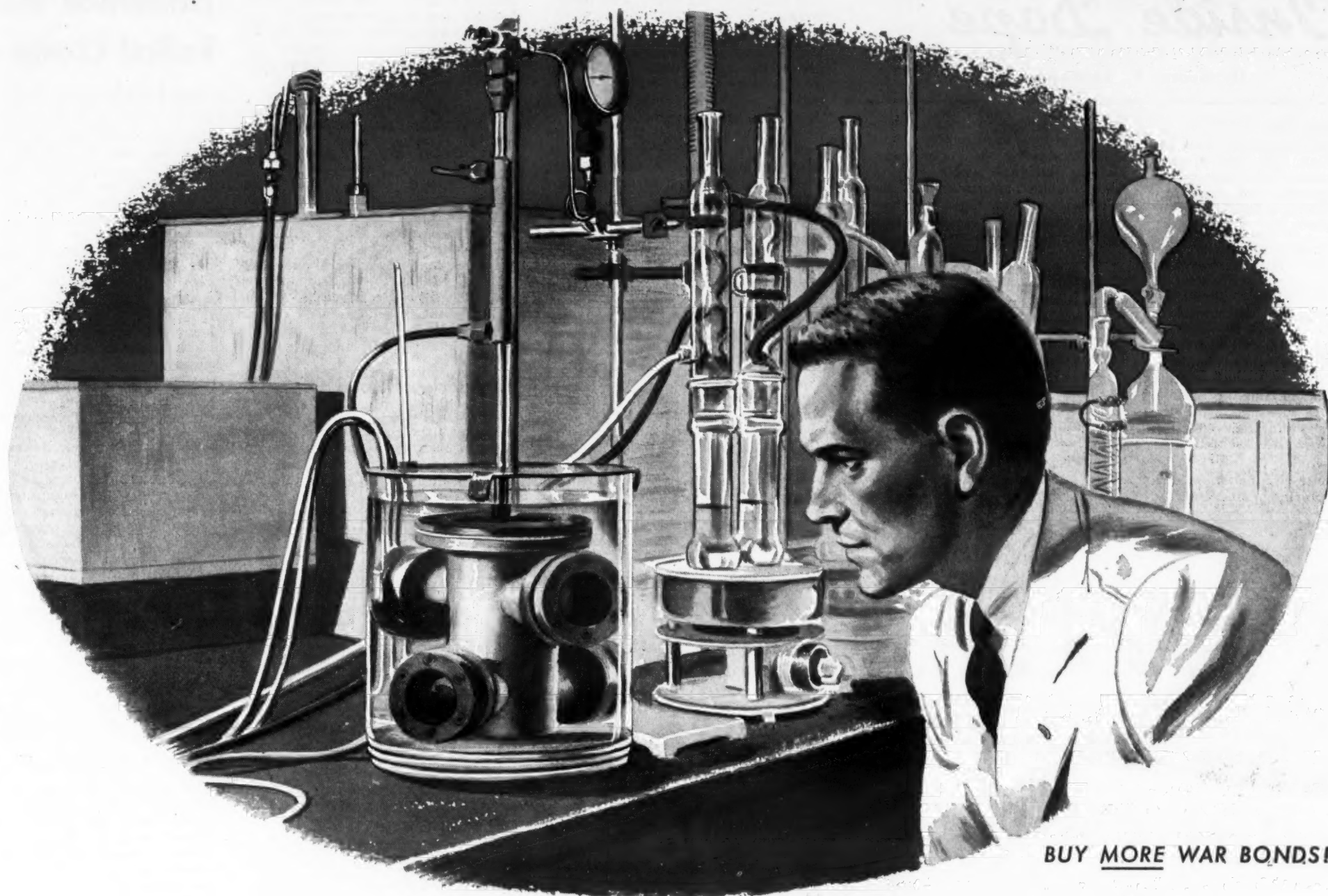
Nor does freezing affect this new PENN creation; rubber diaphragms fully compensate for any expansion—no drain plug is necessary. Best of all, the smooth operation of the PENN 246 makes water hammer a thing of the past.

Learn more about these and many other new features, each aimed at trouble-free performance for you. Write now for your free copy of Bulletin R-1986! Penn Electric Switch Co., Goshen, Ind. Export Division: 13 East 40th Street, New York 16, U.S.A. In Canada: Powerlite Devices, Ltd., Toronto, Ont.

PENN

AUTOMATIC CONTROLS

FOR HEATING, REFRIGERATION, AIR CONDITIONING, ENGINES, PUMPS AND AIR COMPRESSORS



BUY MORE WAR BONDS!

How will this "Soxhlet" help give Frigidaire Dealers still better products to sell?

FEW PEOPLE have ever seen or even heard of this "Pressure Soxhlet." It is, we believe, the only one of its kind in existence. Another example of the special scientific devices designed by Frigidaire Research Engineers to do something never done before!

In non-technical language, this "Soxhlet" is used to "turn a refrigerator mechanism inside out"...to examine every part and material of a mechanism...to see what happens through a "lifetime" of operation. The final purpose: to bring about important improvements that mean faster-selling products for Frigidaire Dealers—products that work better, last longer, and cost less to operate.

The "Soxhlet" is only one demonstration of that spirit of creative research which has spurred Frigidaire Engineers on to new leadership—year after year for the past quarter-century.

Proof of this engineering leadership is in all the major advancements that Frigidaire has contributed to make modern refrigeration so convenient, so dependable, and so economical!

To name only a few—

Frigidaire and General Motors pooled their scientific knowledge to develop "Freon," the world's first and only safe refrigerant.

Frigidaire was first to provide trigger-quick ice cube release, with its celebrated Quickcube Tray and Automatic Tray Release.

Frigidaire led the way to better refrigeration of fruits and vegetables with the Hydrator...provided temperature regulation, sped ice freezing, simplified dessert making, with the Cold Control...offered the first Frozen Storage Compartment.

Frigidaire set new standards of performance and economy with its famed Meter-Miser, the simplest refrigerating mechanism ever built!

Frigidaire opened an entirely new era of more efficient, more convenient food preservation with the development of the revolutionary Cold-Wall Refrigerator.

And these are only a few examples of the Engineering leadership that has helped Frigidaire Dealers maintain consistent *selling leadership*!

The same Engineering leadership provides the strongest kind of assurance for the future. The Frigidaire dealer *knows* he will be able to offer his customers the kind of advanced refrigerators, ranges and other appliances they expect. He *knows* he will be able to take fullest advantage of the great selling opportunities that lie ahead. He *knows* he can look to the future with confidence, because Frigidaire Engineering will always provide better and better products for Frigidaire Dealers to sell.

3 Reasons for

Frigidaire Engineering Leadership

1—Frigidaire maintains a *complete* Research-Engineering Organization, an organization skilled in not just one or two sciences, but in *all* the sciences concerned in the products it manufactures—chemistry, electricity, mechanics, metallurgy, ceramics and the rest.

2—Frigidaire Research is never satisfied. Long before a product reaches Frigidaire Dealers and the public, Frigidaire Engineers are searching for ways to make it better.

3—Frigidaire Engineering is backed by the tremendous resources of General Motors.

**Look to Frigidaire for
Leadership through Engineering!**

For Excellence



FRIGIDAIRE

Division of

GENERAL MOTORS

DAYTON 1, OHIO • LEASIDE 12, ONTARIO

Peacetime builders of

ELECTRIC REFRIGERATORS • RANGES • WATER HEATERS
HOME FREEZERS • ICE CREAM CABINETS
COMMERCIAL REFRIGERATION • AIR CONDITIONERS
BEVERAGE, MILK, AND WATER COOLERS

Inside Dope

By George F. Taubeneck

(Concluded from Page 1, Column 1)
country into thermal zones which are based upon mean, high, and average low temperatures. Obviously, maximum temperatures and humidity, rather than average, should be the determining factor."

The army medical corps in time of war has the call on the best surgeons and hospitals administrators in the country. Many physicians have left practices which yielded them handsome incomes to work for army pay. There is no lack of funds to equip hospitals and there should be no lack of equipment. And certainly the war department and the medical corps should be credited with the greatest good will in their effort to give wounded men the best treatment possible.

Yet under these circumstances men are found suffering unnecessarily.

The reason lies in the inescapable stupidity of a bureaucracy. Staff it with the smartest people in the world and its red tape would still make their combined efforts stupid. Somebody in Washington decided that the proper way to allocate air conditioning equipment was to do it by a weather map. The wrong kind of weather map was picked, but nobody in the hierarchy seems to have had the initiative or the power to reverse the error made at the top, and so soldiers suffer.

Small World

It's a small world after all and Pfc. William Madden, of Dayton, Ohio, will be one of the first to acknowledge that fact.

Not so long ago, Pvt. Madden, then serving with General Patton's Third

army in France, was granted a one-day furlough. He spent it in Nancy, France.

He was homesick, he was dirty, and he was tired as he walked down one of the main streets. Blue as he was, he snapped out of it when, upon looking in the window of a Home Appliance Shop, he saw a picture of his sister-in-law, Mrs. Thelma Wellbaum Stark of Glenbeck apartments, Southern Hills, Dayton, Ohio, smiling at him from the top of a Frigidaire refrigerator.

Pvt. Madden thought he was dreaming, when suddenly he remembered that this bit of American advertising in a small store in France brought home close to him, for sure enough it was a picture of Thelma, who was a former employee of the Frigidaire Division, General Motors Corp. (and, take it from the writer, an unusually pretty girl).

A little while later he walked into another store and there he saw a National Cash Register, and a Dayton Scales product—two other items from his home town.

As he wrote to us: "Boy, I can't believe it, seeing my home town so well represented. I'm not so home-

sick now, and believe me, I'm going back and fight all the harder to get this job over as soon as possible. At least, seeing all this makes me feel closer to my wife, Charlotte, and boy, Bill, at 17 Glenbeck. It certainly is a small world."

Pixley Electric Supply Purchased By Wesco

COLUMBUS, Ohio—Pixley Electric Supply Co., appliance distributor here, has been purchased by Westinghouse Electric Supply Co., announces David M. Salsbury, Wesco vice president and general manager.

L. A. Pixley, president of the Pixley firm, will manage the Westinghouse outlet and the west central territory, including Wesco branches in Cincinnati and Evansville, Ind.

I. B. Bricker Rejoins Gimbel's

PITTSBURGH—I. B. Bricker is rejoining the Gimbel Pittsburgh store in January as buyer for major appliances. He was with the firm before taking a WPB job, from which he has resigned.

Timmerman Debunks Radical Change Idea

(Concluded from Page 1, Column 3)

Timmerman, plastics are no cure-all. He does think, however, that there is a big field for plastics in motor insulation and further use in this application can be expected.

When talking about the new refrigerator we are quite apt to overlook the good job the refrigerator engineers have done already, pointed out Mr. Timmerman. Since the advent of the refrigerator in 1907, its cost, kilowatt hour consumption, and noise level have been reduced consistently, while the available food storage space has been increased, he said.

"The industry has done a good job for the public and needed no wartime urge to give it a kick in the pants," he declared.

Citing consumer surveys which indicate a continuing demand for larger storage space, Mr. Timmerman said that manufacturers are challenged to provide more usable space without a corresponding increase in outside dimensions.

The surveys showed, he said, that the high quality of refrigerators already attained must be continued. And, he added, the five-year warranty is really a "blessing in disguise," because it forces the engineer to look twice before he changes even as much as a cotter pin.

Considering the hours of operation of the refrigerator in comparison with other motor-driven devices, Mr. Timmerman declared that a washing machine would have had to be in use since the time of Columbus in 1492 to equal the hours of operation of a refrigerator installed in 1929.

Discussing the probable effects of frozen foods on the postwar refrigerator picture, Mr. Timmerman declared that the individual with a conventional refrigerator will not be entirely handicapped since frozen meats, for example, can be kept in the defrosting pan for a week without harm, and, in fact, may be improved sometimes by slow defrosting. Estimating the potential home freezer business at 10% of the household refrigerator market, Mr. Timmerman pointed out that while the public is definitely interested in a deluxe two-in-one refrigerator, manufacturers must reach the low income market including some 8,000,000 homes now without refrigerators.

Numerous service problems will be encountered in the home freezer field, he predicted, because sweating and insulation difficulties, for example, will be more pronounced than in conventional household units. The industry should establish high standards for ratings and tests to avoid getting a black eye from lack of attention to these factors, he urged.

G-E Radio 'House Party' To Push Appliances

HOLLYWOOD, Calif.—To acquaint the public with new electrical appliances that will become available after the war, General Electric Co.'s Household Appliance Division began sponsorship Jan. 15 of the five-day-a-week audience participation radio show, "House Party," over the Columbia domestic network.

Originating here from 4 to 4:25 p.m., E.W.T., the program includes a variety of contests and quizzes, novelty stunts, household hints, etc., with electrical appliances being given as prizes to participants winning on the basis of studio audience preferences recorded on an applause meter.

G-E also sponsors the "World News Today" program heard over the same network from 6:45 to 6:55 p.m., E.W.T.

Doidge Named Chief of OCR Durable Goods

WASHINGTON, D. C.—Leslie P. Doidge, formerly chief of the Furniture, Appliances, and Housewares Section of the Office of Civilian Requirements, has been named chief of the Consumers Durable Goods Branch, succeeding Benjamin L. Webster, who recently resigned.

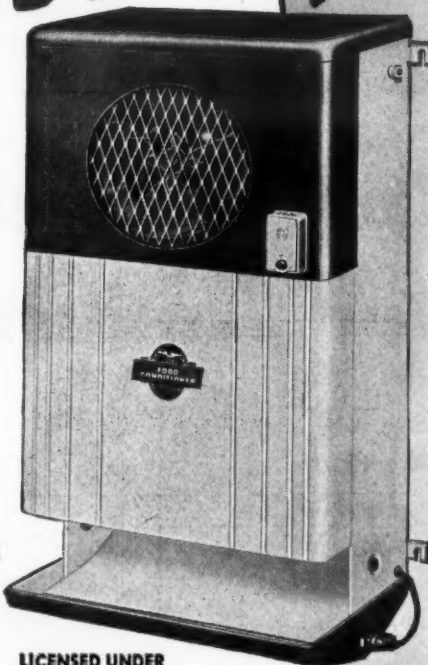
A New York City advertising man for 20 years, Mr. Doidge entered government service in June, 1942, with the War Production Board. He shifted to OCR in November, 1943.

YOU ASKED FOR IT... here it is!

JOBBER!

ACT TODAY AND PROFIT with this Easy-Selling Line IMMEDIATE DELIVERIES

Watch this magazine for still further announcements of "Equipment of the Future" NOW



LICENSED UNDER Latent Cooler Patents Patent Pending

THE AMCOIL FOOD CONDITIONER IN A REACH-IN PANEL UNIT

Combines high, controlled humidities (up to 85%) with cooling temperatures down to 36° F. Preserves without dehydration.

THE Amcoil Food Conditioner Reach-In Panel Unit is the answer to a growing demand for the principles of the famous Amcoil Food Conditioner, in a smaller unit of medium BTU capacity, adapted for reach-in and small walk-in coolers.

Designed to occupy a minimum of space, it is a complete package unit. When combined with a condensing unit it produces an economical refrigeration system that not only cools, but also preserves foods by preventing detrimental dehydration. It is completely automatic with a humidistat controlling the humidity at a predetermined level.

Model RIF 38.....4600 BTU Capacity at 15° T.D.
Model RIF 43.....5500 BTU Capacity at 15° T.D.

Also Available Now

Amcoil Alservice Reach-In Panel Cooling Unit
Similar in appearance to the Reach-In Panel Food Conditioner, here is a compact down draft cooling unit that will meet all utility refrigeration requirements in reach-in and small walk-in coolers. Cooling temperatures down to 36° F.

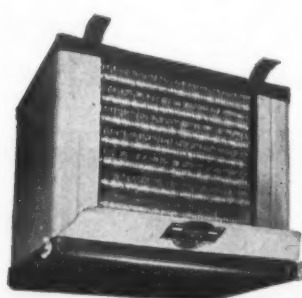
Model RI 40.....5250 BTU Capacity at 15° T.D.
Model RI 45.....6150 BTU Capacity at 15° T.D.



AMCOIL COMFORTAIRE CONDITIONER—A new development in air-conditioning, this completely automatic unit creates cool, dry, comfortable air at a fraction of the cost of re-heat systems. This is made possible by the use of the new and novel latent cooler patents.



AMCOIL FOOD CONDITIONER. A well mounted unit combining high, controlled humidities up to 85% with temperatures of from 35° to 40° F. Designed for walk-in boxes it automatically preserves foods without dehydration. Can be used effectively to store meats, fruits and vegetables, butter, cheese, eggs, flowers, bakers and confectioners products, to retard dough, etc.



AMCOIL ALSERVICE OPEN FACE COOLING UNIT. Is designed for efficient cooling and serves as a general utility unit in preserving foods and other commodities where a forced draft cooling unit is required. Streamlined design, in attractive grey and black color scheme, it can produce temperatures down to 34° F.

NEW
A STILL SMALLER ALSERVICE REACH-IN PANEL COOLING UNIT
Now Ready for Delivery
Model RI 25—2250 BTU Capacity at 15° T.D.
Model RI 30—3000 BTU Capacity at 15° T.D.



ZERO BREEZE LOW TEMP UNIT. A low temperature unit equipped with automatic electric defrost... wall-hanging model... produces temperatures from +20° F. to -20° F. ... defrosts automatically on each off-cycle.



AMERICAN COILS CO.
25-27 LEXINGTON STREET - NEWARK, N. J.

Cable Address—AMCOIL

P. J. Burrill, 800 N. Clark St., Chicago, Ill.
The Mac Silver Co., 547 S. Fairfax Ave., Los Angeles, Calif.

MANUFACTURER'S REPRESENTATIVES

J. J. Madden, 212 Madison St., Dedham, Mass.
J. E. Oliphant & Co., 505 Uhler Bldg., Marion, Ohio
R. Barthelme Sales Co., 1711 Chalmers Ave., Jacksonville, Fla.
F. M. Eversden & Associates, 220 S. 16th St., Philadelphia, Pa.

unks
idea

June 3)

cure-all
that there
in motor
in this

new re-
to over-
refrigerator
printed
the ad-
1907, its
tion, and
ced con-
ble food
increased.

good job
no war-
k in the

s which
and for
Timmer-
ers are
e usable
ding in-
s.

said, that
ators al-
continued.
ear war-
in dis-
engineer
ges even

operation
mparison
ices, Mr.
washing
to be in
mbus in
operation
a 1929.

effects of
r refrig-
man de-
th a con-
not be
e frozen
kept in
ek with-
y be im-
efrosting.
al home
ne house-
'Timmer-
hile the
ed in a
r, manu-
v income
8,000,000
ators.

s will be
freezer
sweating
for ex-
ced than
hits. The
h stand-
to avoid
lack of
e urged.

arty'

acquaint
al appli-
available
ric Co.'s
on began
Eve-day-a-
on radio
the Co-

to 4:25
includes
quizzes,
nts, etc.
s being
nts win-
audience
applause

"World
ard over
5 to 6:55

of

Leslie P.
e Furni-
se-ware
Civilian
ed chief
e Goods
amin L.
ed.
ing man
ered gov-
1942, with
rd. He
1943.

1st Quarter Icebox Production Set at 54,995 for 14 Firms

WASHINGTON, D. C.—Quotas for the production of 54,995 domestic ice refrigerators in the first quarter of 1945 to meet military and essential civilian requirements have been assigned to 14 manufacturers, says WPE.

Additional authorizations for the production of 20,005 domestic ice refrigerators, bringing total first-quarter authorized production to the permitted maximum of 75,000, will be assigned later. They will be assigned either to additional manufacturers who may apply before Jan. 15, 1945, or to the manufacturers authorized today.

The individual production quotas and the names and addresses of the currently authorized manufacturers are listed in Schedule X to Limitation Order L-7-c, announced today. Under the terms of this schedule, each manufacturer may make his quota of refrigerators only in his own plant and at the location designated in the schedule.

The manufacturers and their quotas are:

	Units
Arctic Refrigerator Co., Brooklyn	3,537
Atkins Table & Cabinet Co., Brooklyn	1,174
Brunswick Refrigerator Co., Brooklyn	2,295
Doherty-Stirling, Inc., Baton Rouge, La.	164
Dratch's Victory Refrigerator Box, Brooklyn	1,624
Fy-Boro Metal Products Co., Brooklyn	4,347
Ice Cooling Appliance Corp., Morrison, Ill.	16,171
Iceland Refrigerator Co., Brooklyn	2,103
King Refrigerator Corp., Brooklyn	2,355
Maine Mfg. Co., Nashua, N. H.	9,900
Precision Metal Products Co., Brooklyn	575
Sanitary Refrigerator Co., Fond du Lac, Wis.	6,000
Stoddard Mfg. Co., Mason City, Iowa	750
Ward Refrigerator & Mfg. Co., Los Angeles	4,000

Of the 75,000 ice refrigerators planned for production in each quarter, 55,900 are for civilian requirements. The rest are needed to meet requirements of the United States Maritime Commission, Foreign Economic Administration, and National Housing Agency.

Detroit Contractors Take Pictures for Wounded Vets

DETROIT—As its annual Christmas greeting to the men in the armed services, the Refrigeration Contractors Association of Detroit this year sponsored a trip of photographers to the Percy Jones Memorial Hospital at Battle Creek, Mich., early in December to take pictures of hospitalized war veterans to send to their families for Christmas.

A bus chartered by the association carried 31 volunteer photographers of the Photographic War Service, Inc., to Battle Creek, accompanied by George Johnston, president of the refrigeration contractors, and William Euth of Euth-Lambrecht Co. Arrangements were made by B. G. Hyatt of Copeland Authorized Refrigeration Service.

Four photographic crews were working all the time at the hospital, assisted by helpers who prepared the veterans for the pictures. A total of 388 pictures were taken free of charge on the trip, with the soldier receiving one print and his family another print and the negative.



WAR INDUSTRIES NEED REFRIGERATION

The use of refrigeration in industry has been greatly accelerated by the war. In peacetime this expansion may logically be expected to continue. Write for literature.

GENERAL REFRIGERATION DIVISION

Yates American Machine Co. Beloit, Wis.



M-H War Orders For Fire Controls Hit New Peak

MINNEAPOLIS—Military demand for many of the approximately 50 different war instruments made by Minneapolis-Honeywell Regulator Co. has been increased so greatly recently that the company entered 1945 with an overall backlog approaching its highest peak, according to a report by George A. DuToit, Jr., vice president.

Advanced scheduling during the last 90 days of critical fire control instruments, including those for which the company is the sole supplier, have more than offset contract terminations of some war items which were taken from production during the last six months of 1944, DuToit said, with the result that Minneapolis-Honeywell's production was on the increase at the end of the year.

"Although our major effort has been for the war, and will continue

to be until victory," DuToit said, "we believe our plans for postwar business have progressed to the point where we can reasonably expect to almost double our best prewar year and employ far more people than we did in 1940. But until the last shot has been fired, we are being depended upon to develop new weapons, as we have in the past and to keep our production abreast of the high levels that have been asked of us."

Irwin Named Asst. Head Of Carrier Advertising

SYRACUSE, N. Y.—N. Stuart Irwin has been appointed assistant director of advertising and sales promotion for the Carrier Corp.

For the past six years Mr. Irwin has been with General Electric and Sherwin-Williams, engaged in advertising, promotion, and management-employee relations.

Mr. Irwin designed a new merchandiser with 101 combinations for General Electric, and introduced "Kem-Tone" for Sherwin-Williams.

New Device Permits Quick Testing Of Household Unit's Thermostat

PITTSBURGH — Thermostat adjuster device now is available that lets the refrigerator service man show the customer if her thermostat is effective, reports E. C. Williams, manager, Aircraft Service Co., 1007 Forbes St.

New instrument, complete with carrying case, instructions, and adapters to fit each type of thermostat, 1) fits the service man's pocket for use a) in the appliance dealer's store or b) in the field;

2) quickly indicates the "cut-in" and "cut-out" temperatures of the thermostat;

3) in most cases does not require removing the thermostat for testing.

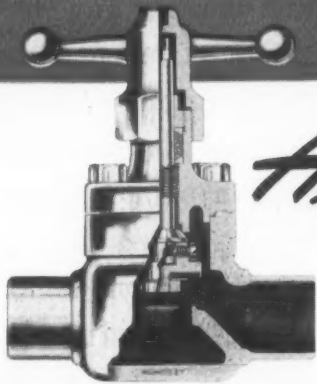
So far the device has quadrupled the sale of thermostats to the service man and the dealer, and reduced unsatisfactory work done by the service man to a minimum, saving his time, says Mr. Williams.

In fact, the housewife, herself, will

be able to take the thermostat on her refrigerator to her appliance dealer for checking merely by loosening three screws (two screws holding the thermostat body on the evaporator, and one screw holding the bulb of the thermostat in place).

To publicize the new device, consumer advertising for the housewife, both in national news-stand magazines and in newspapers is considered 1) explaining the device to the housewife, 2) telling her how the dealer in five minutes can use the device to check her household thermostats.

One thing that needs correction, says Mr. Williams, is the housewife's belief that the refrigerator's freezer should drip because there is a pan beneath for water to drip into. Actually, Mr. Williams emphasized, the housewife should know the dripping means a faulty thermostat has warmed up the refrigeration from 16-18° F. to 27-30° F.

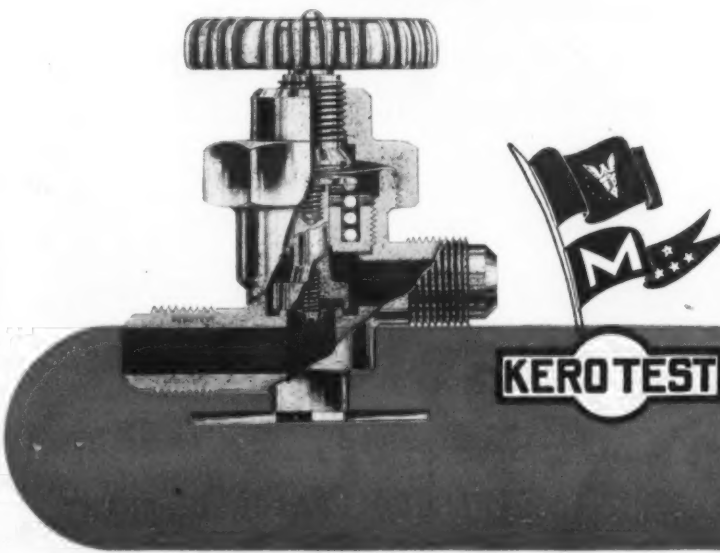


Helping to protect meats and other perishable foods on land, on Sea, in the air

KEROTEST BRASS VALVES

America's leading builders of food preservation equipment are successfully using KEROTEST BRASS VALVES because Kerotest engineer-

ing and master craftsmanship assure that dependable, trouble-free service that is so essential in all modern refrigerating equipment.



KEROTEST MANUFACTURING CO.
PITTSBURGH, PA.

Ed. Gay Resigns as OCR Executive

WASHINGTON, D. C.—Resignation of Edward R. Gay, assistant vice chairman for Civilian Requirements, has been announced by William Y. Elliott, Vice Chairman for Civilian Requirements of WPB.

Having gone to the War Production Board in June, 1942, Mr. Gay ranks among the first of the many executives who gave up their peacetime positions to assist in directing the nation's economy during the war period, WPB said.

His first position with WPB was as chief of the Industrial Programs Branch of the Office of Civilian Supply. Later he became director of the General Commodities Division, in which capacity he served until May, 1944, when he was appointed Assistant Vice Chairman for Civilian Requirements.

Before going to WPB, Mr. Gay was vice president and director of the St. Regis Paper Co. in New York City.

Promoted by Norge



PAUL H. PUFFER
Recently appointed vice president of Norge to develop an employee and public relations program.

Axel Nelson to Head Enterprise Appliances

KANSAS CITY, Mo.—Headed by Axel "Buddy" Nelson, a new home appliance department has been opened by the Enterprise Wholesale Furniture & Stove Co. here to distribute the Coolerator refrigerator line and Arvin radios in Kansas and western Missouri, announces Myron A. Loewen, president. The firm also expects to distribute other appliance lines.

Kenneth Hampton Quits Fresno OPA Post

WASHINGTON, D. C.—Kenneth L. Hampton, who had been with Valley Electrical Supply Co. of Fresno, Calif., for 22 years before he joined the Office of Price Administration's Fresno staff, has resigned as chief of the OPA Price Panel Branch here to return to private industry in Fresno.

Faraday Electric Resumes Production on Line Of Small Appliances

ADRIAN, Mich.—Faraday Electric Co.'s plant is now making its postwar plans to produce small electrical appliances and accessories and has already resumed production of the electro-boiler, consisting of a heating element with metal dome-type reflector, which can also be used as a toaster and electric grill.

The company is now taking orders for its "Plugmaster" cord set, equipped with adjustable jaws said to fit automatically any socket appliance and thus eliminate the need of a cord set for each appliance. Faraday is also showing but not producing its heater-fan, and is tooled up to make electric door chimes.

A 104-page catalog listing items that might appeal to appliance dealers is available on request to the factory here.

Refrigerator Mfrs. Study Problem of Reducing Shipping Damages

CHICAGO—Stimulated by the Association of American Railroads' announcement that shipping damages for refrigerators totaled \$122,621 in 1943, manufacturers of wirebound boxes are experimenting with new containers to meet the problem.

With the help of several outstanding package laboratories, they are creating containers to fit postwar needs and eliminate damage to products in shipping.

They are consulting with manufacturers of refrigerators on how they can avoid damage losses in designing, manufacturing, and packing their products.

As a result of present experiments and present consultations, the Wirebound Box Manufacturers Association believes it has the answer to the problem of cutting down damage losses in the shipping of refrigerators. The solution they propose is a flexible shock-resisting quality to shipping containers.

Wirebound boxes and crates are manufactured of lightweight wood bound and stapled with steel wire. This type of construction gives the box a flexibility that acts as a shock-absorber in taking knocks, and thus cuts down damage to contents.

The new containers of lighter woods designed to have proper size and number of cleats, and the proper number of wire staples per section for weight and contents of package, are also easier to handle and cheaper to ship because of their lighter weight.

On-the-Job Training Seen for Salesmen

NEW YORK CITY—Don G. Mitchell, vice president in charge of sales of Sylvania Electric Products, Inc., told a meeting of the Sales Executives Club of New York that training of salesmen on the job in imitation of the "almost unbelievably successful techniques of the training-within-industry program" used during the war is the best way to produce the type of sales force industry will need to sell its products.

"The sales manager in the postwar era who sends a sales force into the field without knowing ahead of time what the market potential for his product is and what percentage of that potential he has a reasonable chance of expecting from each member of his sales force," Mr. Mitchell further declared, "had better quit before he makes a flop of his job."

Urging adequate rate of pay for the sales force, Mr. Mitchell contended that "one \$5,000-a-year salesman will outsell two at \$2,500 a year."

As between commission payment and straight salary, he expressed belief either would work well "if the salesman feels that if he does a better job he will make more money."

Domestic Appliance Co. Formed in Richmond

RICHMOND, Va.—A new dealership known as the Domestic Appliance Co. has been established at 3145 Cary St. here by Sam Iseman, Jr. The firm has Philco and Crosley franchises and other lines and will operate an appliance and radio repair shop, in addition to selling phonograph records.

LOW TEMPERATURE WATER COOLERS
For Bakeries, Bottlers and General Application
Capacities to 300 G. P. H. and storage to 150 gallons.
Water Cooled to 34 degrees.
SAFE-DEPENDABLE-EFFICIENT SHIPMENT FROM STOCK
Write for Complete Catalog
FILTRINE MANUFACTURING CO.
53 Lexington Ave., Brooklyn 5, N. Y.
"Manufacturers for Over 40 Years"

HERE'S AMERICA'S FIRST POSTWAR REFRIGERATOR

All Steel Cabinet COOLERATOR Ice Conditioned REFRIGERATOR

- WASHED AIR REFRIGERATION!
- 4-WAY CIRCULATION!
- UNEQUALLED FOOD PROTECTION!

Months ahead of any electric, you can sell Coolerator's famous, proven "Washed Air" Ice Refrigerator . . . in a brand new, ALL STEEL, postwar model!

Nearly a million satisfied users demonstrate that Coolerator has the "know how" in refrigerator cabinet making. Coolerator's 10-year sales record shows that hundreds of thousands of people prefer good ice refrigeration.

Get in FIRST with the BEST! Order Coolerator now! In best-selling 5-foot and 6½-foot sizes.

Order COOLERATORS Now! Sell COOLERATORS Now!
You can promise Coolerators early in 1945!

COMING SOON!

COOLERATOR ELECTRIC

All the proved Coolerator skill... all the most-wanted postwar features... combined in this Electric. In 7-foot and 9-foot models.



HOME AND FARM FREEZER

To tap a rich postwar market! In 6½ foot Home size; 15-foot size for Farms and large families.



Coolerator

THE COOLERATOR COMPANY
Duluth 1, Minn.

Moves to East



R. H. SWART

Swart Heads Engineering For Savage Arms

UTICA, N. Y.—R. H. Swart, formerly with Nash-Kelvinator, General Refrigeration Corp., and Aviation Corp. of America, has been named director of refrigeration engineering at the Utica plant of Savage Arms Corp.

A graduate of the University of Minnesota, Mr. Swart won the 1925 national scholarship award of the National Association of Practical Refrigeration Engineers. He is a member of the Detroit Section, American Society of Refrigerating Engineers. During his 20 years' experience in the refrigeration field, Mr. Swart has concentrated on the design and manufacture of ice cream cabinets, condensing units, and other commercial equipment.

Frank Hawk Joins Cecil Boling Co.

NEW YORK CITY—Frank C. Hawk, formerly with the export division of Worthington Pump & Machinery Corp. at Harrison, N. J., has joined the Cecil Boling Co., manufacturers' representative, to handle the New York City metropolitan area and Northern New Jersey, concentrating on heat transfer engineering, announces Cecil Boling.

After his graduation from Lehigh University 10 years ago, Mr. Hawk first joined York Corp. Since then he has been associated with Peerless of America, Inc.; Airtemp Division, Chrysler Corp.; and Worthington.

Ford Bros. to Handle Airtemp In Buffalo

BUFFALO—Ford Bros., Inc., 23 Illinois St. here, has been named commercial and industrial refrigeration contractors and distributors for Airtemp Division, Chrysler Corp., announces William H. Ford, president.

Lattimer H. Ford, formerly general manager of the Buffalo division of Hub Industries, Inc., has resumed active duty as vice president of Ford Bros. in charge of production.

NEW 1944 CATALOG



Write for copy on your letterhead

Washing Machine Parts Catalog will not be issued in 1944

SERVICE PARTS CO.
251 Lake St. Melrose Park, Ill.

Production Starts In New Capacitron Building

CHICAGO—Production will soon be started on several lines of electrolytic capacitors in the new plant of The Capacitron Co., located at 849 North Kedzie Ave., here.

Equipment has been designed and built which incorporates several newly developed manufacturing principles to insure accurate quality control with volume production.

In addition to standard lines of electrolytic capacitors, the new plant will turn out capacitors of a high life expectancy for use under severe service and temperature conditions. Several types of fluorescent ballast capacitors of this type as well as a complete line of heavy duty motor starting capacitors will be produced.

The new building, which is nearly a block long, will eventually house all Capacitron manufacturing facilities. The general offices of The Capacitron Co. are now installed in the new building.

Blair Heads Williams' Refrigeration Department

PITTSBURGH—John M. Blair, long associated with the refrigeration department of Williams & Co., Inc., parts jobber, has been appointed manager of the department, succeeding H. S. McCloud, who recently became executive secretary of the National Refrigeration Supply Jobbers Association, announces H. C. Armstrong, Williams vice president and general manager.

R. H. St. John Heads Wesco In Albany

ALBANY, N. Y.—Appointment of R. H. St. John as manager of the Albany branch has been announced by H. B. Tompkins, Eastern District manager of the Westinghouse Electric Supply Co. Mr. St. John replaces Alger Reilly, who has been transferred to the Newark branch of the company.

Universal Cooler Net Rises to \$251,019

MARION, Ohio—Universal Cooler Corp. here reports that its net income for the fiscal year ended Sept. 30, increased to \$251,019 after \$820,000 in taxes. Total sales were \$11.9 million, nearly triple average prewar volume and a gain over the previous year's \$9.3 million.

The company netted in the previous year \$244,260 after taxes of \$638,500 and a net renegotiation fund of \$7,354. The company is not providing for renegotiation this year because it doesn't think it will be required.

Profits were equal to 49 cents per Class B share compared with 40 cents the preceding year. Required dividend of \$1 was paid on the 101,078 shares of convertible participating Class A stock. Dividend of 10 cents was paid on Class B stock in September, being the second ever made on this class. Class A shares received 75 cents last year, and nothing in 1941 and 1942.

There are no funded debts in the company, but last year Universal Cooler took a \$1.6 million V loan, the funds used from which are carried under current liabilities.

Davis Manages Servel Conditioning Service

EVANSVILLE, Ind.—Appointment of R. E. Davis as service manager of the Air Conditioning Division of Servel, Inc., has been announced by John K. Knighton, air conditioning sales manager.

Mr. Davis joined Servel in 1931 prior to which time he had been associated with two different Servel distributors, A. Baldwin Co., New Orleans, and with the Servel distributor in Oklahoma.

Since joining the company he has served as field service engineer, export representative in Europe and the Near East, and was in charge of Educational and Service Activities on commercial gas refrigeration. He has been connected with gas air conditioning since 1941.

DU PONT METHYL CHLORIDE

for your refrigeration work!

99.5% PURE—DRY—UNIFORM

DU PONT METHYL CHLORIDE—SPECIFICATIONS

Purity	99.5% Methyl Chloride
Moisture	0.008% by wt. max.
Acid (as HCl)	0.001% by wt. max.
Residue on Evaporation	0.01% by wt. max.
Boiling Range (760mm)	−24.6° to −23.6°C.
Color	water white, clear



This free book is yours for the asking! Du Pont's 92-page Manual on Methyl Chloride is filled from cover to cover with practical, helpful data for every air conditioning and refrigeration designer, engineer and service man. Write for your copy today! E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Department, Wilmington 98, Delaware.

WAR BONDS ARE YOUR BEST INVESTMENT

SPECIFY high-purity Du Pont Methyl Chloride as an original charge, for charging, or as a completely satisfactory replacement for scarce or unavailable refrigerants.

ORDER WHAT YOU NEED, but don't hoard.

YOU CAN COOPERATE by returning empty cylinders promptly! That's how you can help keep deliveries moving fast to you and others.

Great stars in great radio plays make great entertainment... tune in Cavalcade of America—NBC Network—every Monday evening!

DU PONT ELECTROCHEMICALS



BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY

"Measured Cold"

TO MAKE CABINET COOLING
Selective...
THROUGH MORE ACCURATE RATINGS
Precise
BY CORRECT TEMPERATURE AND
HUMIDITY CONTROL

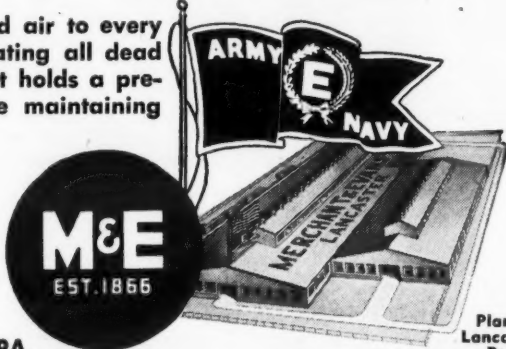


A POST-WAR PRODUCT OF A PRE-WAR
REFRIGERATION PIONEER

FOR MEAT,
PROVISION,
and all
ABOVE-ZERO
APPLICATIONS

By directing a modulated flow of cold air to every corner of the cabinet—and by eliminating all dead air pockets—this new M&E ceiling unit holds a precise, rated cabinet temperature while maintaining a high relative humidity. It reduces dehydration and weight loss without producing sliming—and it is completely automatic, including defrosting. ★ Inquiries invited now.

Manufactured by
MERCHANT & EVANS CO.
2035 WASHINGTON AVE., PHILA. 46, PA.
CONDENSING UNITS • FIN-TYPE COIL PRODUCTS



Plant:
Lancaster,
Pa.

New A.S.R.E. Sections Get Their Charters



A. B. Stickney, Armour & Co. refrigeration engineer and retiring president of the American Society of Refrigerating Engineers, presents the charter for the new Seattle Section of the Society to Carl Anderson of the Siems, Drake, Puget Sound Co. Behind Mr. Anderson stands E. F. Strahan of E. K. Strahan, Inc., New Orleans, who took the charter for a new Section formed in that city. Others at the speaker's table are George A. Horne, a former president who was elected to honorary life membership; and James J. Corey of the New York Section. (For more news of Mr. Corey, see page 1.)

First QM Refrigeration Group Tackled Everything From General's Refrigerator To 10-Ton Trailer Unit

CAMP LEE, Va.—"When I was called upon to repair Lt. Gen. Mark Clark's refrigerator in Italy, I considered it merely a part of my routine job."

So says Sergeant George L. Fox, who served as a Quartermaster refrigeration mechanic in the Mediterranean war area from January, 1943, until April of last year. While there he and his fellow mechanics repaired all types of refrigeration equipment from portable warehouses to giant 10-ton refrigeration trailers.

Sergeant Fox, now back as an instructor at the Quartermaster Refrigeration School of Camp Lee's Army Service Forces Training Center, was a member of the first QM refrigeration unit to be organized by the U. S. Army. The unit was set up at Camp Shelby, Miss., and trained there, prior to coming to Camp Lee in October, 1941, for further instruction.

USED 30 TRAILERS

The unit consisted of four officers and 103 enlisted men, together with necessary equipment, including 30 mobile refrigeration trailers. Some of the trailers were maintained at a temperature of 35° F. for the preservation of vegetables, while others were kept at 20° F. for storing frozen items. Still others were used as storage warehouses for anti-toxins used by the Medical Corps.

The outfit arrived in North Africa at Oran in January, 1943. While in Africa it operated in four sections—at Casablanca, Constantine, Oran, and Mateur. Work was constant, distributing perishables to various elements of the Seventh Army throughout the country.

FROM AFRICA TO ITALY

In the Italian campaign, one platoon landed in September, 1943, and the other three arrived in the following February. One unit set up in Naples, while others followed the Allied forces as they advanced up the peninsula.

TELLS OF 'LINE' TROUBLE

Sergeant Fox stayed with the unit located at Naples, where he did maintenance work on the mobile and fixed refrigeration equipment that was brought in. He reports that there was considerable trouble caused by lines breaking on the trailer vans, with a resulting loss of the refrigerant. The lines would break usually at the point where they were connected with the cold plate. The mechanics solved the trouble by soldering the connections.

Of the operations of the mobile units that carried perishables to the front, Sergeant Fox says that on occasion they would get as close as two miles from the battle lines. One time in North Africa, food was being hauled to a ration dump near the front. Enemy strafing planes came over resulting in the loss of one tractor-trailer. The driver and assistant observed the planes approaching and leaped from the cab of the tractor which went over an embankment. Things got so hot at the dump that two days later it had to be moved further to the rear.

Two of the officers in the refrigeration unit were graduates of the Camp Lee Quartermaster Officer Candidate School: Lt. Samuel K. Boot of Williamsburg, Va., and Lt. Conrad C. Gilliam of Pratt, Kan.

Sergeant Fox's home is at 111 Huntington Place, Cincinnati. In civilian life he was a refrigeration mechanic in Clermont County, Ohio.

Campbell-Ewald Handles American Central Account

CONNERSVILLE, Ind. — The American Central Mfg. Corp. here has appointed the Campbell-Ewald Co., Detroit, as its advertising agency, effective immediately.

Presently engaged entirely in war production, the company will enter the postwar market with expanded facilities for the distribution of its "packaged kitchens."

UTILITY Appliance Corp.

As the Company through the past twenty years has outgrown its former plants and equipment, so have our activities and products outgrown our name. The name Utility Fan Corporation was adopted when our principal activity was the manufacture of Fans and Blowers.

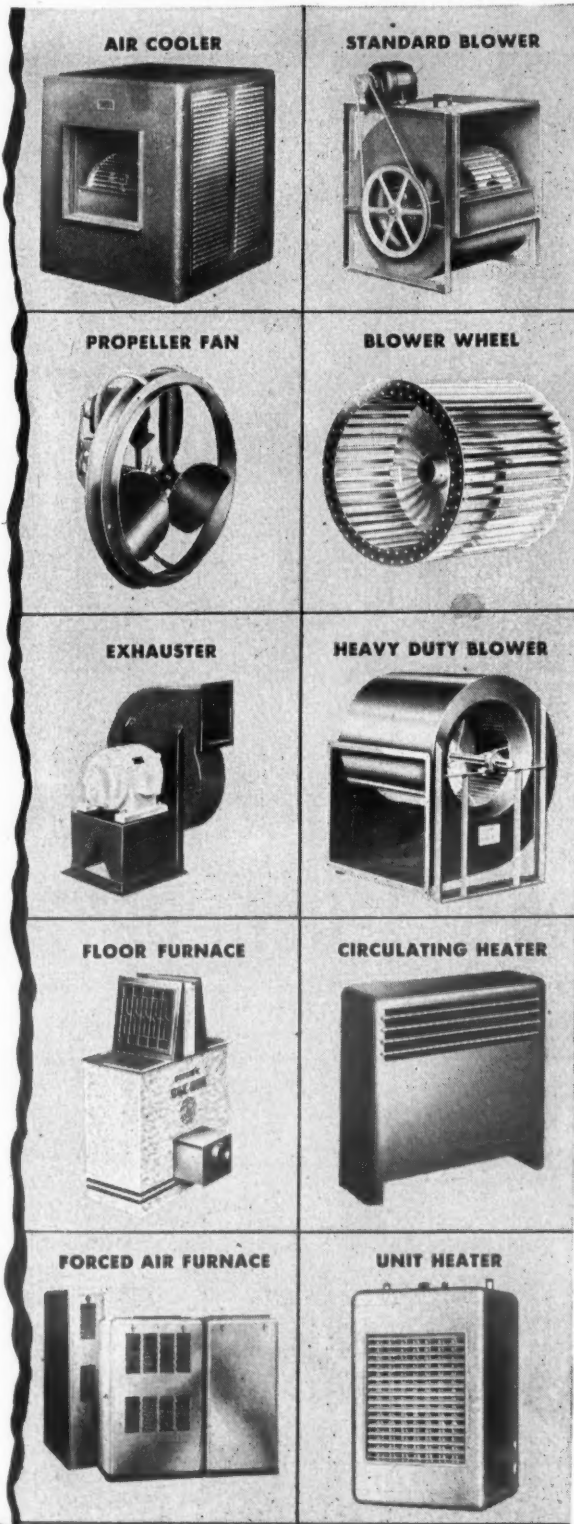
UTILITY APPLIANCE CORP. will more fully describe the Company's present and post-war manufacturing and sales activities.

Additional new appliances are being considered for manufacture after Victory. These additional items will better round out the Company's line of products and will assure capacity production for our expanded facilities and enable us to do our part in providing more jobs for more people.

UTILITY Appliance Corp.
Formerly Utility Fan Corporation
4851 So. Alameda Street
Los Angeles 11, California



THE UTILITY FACTORY... MORE THAN
FIVE ACRES OF PLANT FLOOR SPACE



ANSUL ICE-X IS MAGIC

TRADE MARK

ELIMINATES MOISTURE TROUBLES...DESTROYS ICE AT EXPANSION VALVE!

FOR METHYL CHLORIDE • METHYLENE CHLORIDE AND FREON REFRIGERANT

Literally searches out and gets rid of moisture trouble anywhere in system...destroys ice at expansion valve so no freeze-up is possible...without harm to refrigerant, oil or any of the parts of the system. Ice-X is the original, fully patented liquid dehydrant.

ORDER FROM YOUR JOBBER OR...

THE HARRY ALTER CO. 1728 S. MICHIGAN AVE. CHICAGO 16, ILLINOIS

JOBBERS: WRITE FOR SPECIAL PROPOSITION!




Adequacy of Retail Facilities Seen as Key To Continued Boom In Frozen Food Sales

WASHINGTON, D. C.—Only 30,000 of the country's 500,000 food outlets had installed equipment to handle frozen foods at the time material shortages and other wartime restrictions slowed the industry's retail distribution, a Washington conference was told recently by M. A. Corbett, Frozen Foods Section, Fruit and Vegetable Branch, Office of Distribution of the War Food Administration.

His audience was one of nearly 100 representatives of refrigerated equipment manufacturers, frozen food packers and distributors, retail food store organizations, and agencies within the U. S. Dept. of Agriculture and the War Food Administration, meeting in Washington to discuss postwar frozen food problems.

The rate of growth of frozen foods after the war will depend considerably upon the development and distribution of suitable display equipment in retail stores. For this reason, it was pointed out, the planning of equipment manufacturers is important now.

The necessity for product display in successful frozen food merchandising at the retail level was generally agreed upon by chain-store and

supermarket operators at the conference. The self-service, open-face display case recently developed by the Tyler Fixture Co. was described by the company's vice president, Carl Eliason.

Institutional distributors told the equipment manufacturers that storage-type cabinets were entirely satisfactory for their purposes. One large operator of supermarkets stated that his organization uses storage cabinets as feeders to open-face display cases in different parts of the store.

The discussion indicated that both types of equipment will be in demand after the war, serving on a teamwork rather than a competitive basis.

Some of the problems facing the industry in transportation and public freezer storage facilities were outlined by W. C. Crow, chief of the Marketing Facilities Branch, Office of Distribution, War Food Administration.

The refrigerator cars used to ship frozen foods are becoming obsolete and wearing out, he said. A rolling stock of improved, modern refrigerator cars will have to be built for these and other perishables after the war.

Army's Fight for Ice At Anzio Revealed

WASHINGTON, D. C.—The story of how Quartermaster Corps soldiers provided Anzio hospitals with ice and cold storage for food and medical supplies while the troops were pinned to the small Anzio area was told recently by the War Department.

Lack of cargo space as well as the time element prevented the bringing in of ice by ship from the base section; this item was badly needed by the hospitals. The problem was solved when Fifth Army Quartermasters obtained three 1-ton portable ice plants and sufficient material for a cold storage room. A group of Engineers pitched in to help with the construction.

Since even the hospital area was subject to constant enemy bombing and artillery fire, the installation was built partially underground. A large excavation was made in which the ice-makers and storage room were set up; the portions extending above ground were surrounded by a thick, sandbag wall—only a direct hit would seriously damage the plant.

Tarpaulins stretched over a supporting framework formed the roof; the walls were built in sections and covered with burlap to aid ventilation.

A 3,000-gallon water tank was constructed of canvas, to which water was pumped from a water truck.

The cold storage room did double duty—providing storage for excess ice—the entire production went to the hospitals—and for the storage of blood plasma, biologicals, etc.

Allen Snyder Rejoins Carrier as Assistant to Advertising Head

SYRACUSE, N. Y.—Allen K. Snyder has recently rejoined Carrier Corp. as staff assistant to Les M. Beals, director of advertising and sales promotion.

Mr. Snyder returns to the air conditioning and refrigeration industry from a five year association with Dayton Rubber, in which he was engaged in industrial advertising and sales promotion activities in the v-belt power transmission field.

Prior to that, he was advertising manager for Chrysler Airtemp.

Clarence Searle Elected Worthington President

HARRISON, N. J.—Clarence E. Searle has been elected president of the Worthington Pump & Machinery Corp., succeeding Harry C. Beaver, who becomes vice chairman of the board of directors and chairman of the management committee.

Hobart C. Ramsey, vice president in charge of operations, has been named executive vice president; Edwin J. Schwanhauser, vice president in charge of manufacturing and sales operations in Buffalo, was made vice president in charge of sales; and Leslie C. Ricketts, manager of the company's Harrison works, was elected a vice president.

Mr. Searle, the new president, came to Worthington in 1932 as vice president in charge of sales after many years as an executive with Allis-Chalmers Mfg. Co. of Milwaukee.

Loos Heads Purchases For Vilter Mfg. Co.

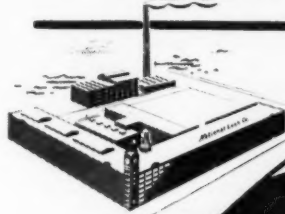
MILWAUKEE—Ludwig E. Loos has been appointed manager of purchases of The Vilter Mfg. Co., manufacturer of industrial and commercial refrigeration and air conditioning equipment, it is announced by E. B. Tilton, executive vice president and general manager.

Mr. Loos was formerly assistant manager of purchases for the company. He graduated from Marquette university in 1934 and began his career with The Vilter Mfg. Co. in 1936 as a member of the purchasing department.

Headquarters

REFRIGERATOR HARDWARE for domestic, commercial and low temperature cabinets

Standard and custom built designs. If you are a manufacturer or jobber, write for our new Refrigerator Hardware Catalog No. R-88.



SURFACE TYPE HARDWARE

"THRU THE DOOR" HARDWARE

EDGE MOUNTED HARDWARE

PLASTICS

DIE CASTING



NATIONAL LOCK COMPANY

Refrigerator Hardware Division
ROCKFORD, ILLINOIS

Happy Tales of Trouble-Free Performance



Lerna Rue

What's going on here?
Even the chops are happy
over Joe's new Kelvinator Condensing Unit!

Wise service men always specify Kelvinator.
An unexcelled record of 30 years proves Kelvinator Condensing Units give more dependability, more economy, more performance.

Kelvinator distributors and zone offices stock a complete line of refrigeration supplies. See them for your installation material such as tubing, controls, dryers, etc.



Kelvinator
CONDENSING UNITS
SEALED • OPEN

FOR YOUR HOME—REMEMBER KELVINATOR REFRIGERATORS, ELECTRIC RANGES, WATER HEATERS AND HOME FREEZERS

WEBER

IN PEACE...WAR...POST-WAR

Commercial Refrigeration,
Soda Fountains, Ice Cream
and Frosted Food Cabinets

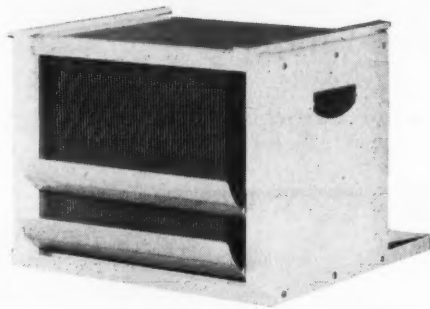
Investigate the country's
most complete line of
commercial refrigerators,
soda fountains and Ice Cream
and Frosted Food Cabinets
before you make any post-war
sales plans.

PLAN NOW TO SELL
THE WEBER LINE INSTEAD
OF SELLING AGAINST IT
Write today for data con-
cerning the details of Weber
distributorships. This fran-
chise will make real money
for those concerns who can
qualify.

WEBER SHOWCASE &
FIXTURE CO. INC.

5700 AVALON BOULEVARD • LOS ANGELES, CALIFORNIA

FILTERPURE UNIT COOLERS



Post-war models with copper and aluminum coils are now in production.

Many new engineering improvements plus tops in performance and eye appeal make them the outstanding unit cooler on the market today.

Write or wire for complete information.

BETZ CORPORATION
Hammond, Indiana

Off the Chest

SEES REPAIR FIRMS AS 'FORGOTTEN MEN'

Baton Rouge, La.

Editor:

In following the trend of "after the war" conditions, it surely looks as though the independent service companies that battled their way through the shortages and directives during the war are going to be left out in the cold.

It would seem to me that the manufacturers could use them to a very good advantage, insofar as they, the service companies, know the real condition of their territory, and also, if they are like me, have compiled a list of customers, their boxes, and the make and condition of same.

In other words, I believe the service men could do a wonderful job both for themselves and also the manufacturers.

We have taken the good with the bad, have worked long hours under all kinds of difficulties to keep units going that the dealers have conveniently forgotten. It would seem only good sportsmanship on the part of the companies and their large jobbers and distributors to give an ear to the logical people who could give them information that is of the utmost value in the period just approaching.

Would be glad to see you print this, and also if you get any reaction

to same to print that also.

Will be glad to hear from anyone who has any ideas on this subject.

E. A. SUMMER

ARE VETERANS BYPASSED IN MANUFACTURER'S ORGANIZATION PLANS?

c/o Fleet P.O.
San Francisco, Calif.

Editor:

My regular receipt of your paper has given me much enjoyment and a deep satisfaction in the feeling that I am keeping in tune with the events and trends of the industry. In turn I pass this copy on to many others here who are also interested in refrigeration, some of whom are old-timers in the industry. I might add that these papers almost set a record for their numbers of readers per copy.

Personally, I very much enjoy your column "Inside Dope." No, I don't agree with everything you say but must commend you for the frankness with which you put forward your opinions.

I would like to make a request that you make a review of what the refrigeration manufacturers are doing along the line of planning for placing the returning veterans at something besides pushing a broom or on an assembly line.

From my own observations I have gathered the impression (and an unhappy one) that the manufacturers are at the present time placing all of their franchises and filling all the big positions in their organizations for the postwar period. The one exception is the article in the Oct. 9 issue of the NEWS in which York Corp. has shown some real consideration of this problem.

I think I am speaking for the average veteran. We hope and think we are men. We don't want the key to the city, charity in the form of a bonus so great as to add an additional debt burden on the country, in fact, most of us don't believe in special favors.

Neither do we wish to come back

to the conditions that were faced by the returning veterans of 1918. I don't think we will take very kindly to finding that all the good positions have been filled by some draft dodger or 4-F'er simply because they were available at the time this particular firm was forming its postwar organization.

My personal observations of the amount of clear thinking, study, and planning by a large percentage of these fellows who are honestly trying to fit themselves for the postwar period are that these fellows for a greater part would be a credit to any organization.

The question is: Are they working, planning, and dreaming in vain? Are they being sold down the river by the very people they are fighting to protect?

I truly think that this question has been analyzed in the mind of each serviceman.

Isn't it possible that these companies are passing up some very excellent men by being hasty?

HARRY A. PHILLIPS, JR.,
Chief Machinist Mate
Refrigeration, U.S.N.R.

GI'S COPY OF NEWS HAS 36 READERS

Div. Refrig. Eng.
Hq.—CEAD—ATC
1200 AAF Base
APO 625, Miami, Fla.

Gentlemen:

Enclosed money order for renewal of my subscription for the AIR CONDITIONING & REFRIGERATION NEWS. You people back home have some idea as to the importance of the NEWS, but I can tell you that the real and essential information of importance gets to me the only possible way, via your NEWS.

The NEWS when I get it is so scrutinized and read and re-read, and then I pass it on out through the system so that it is read by about 36 different people (G-I's).

You can well understand I would not do without my NEWS for many times the cost, especially when I am preparing for my third Christmas in the country of "white man's grave."

Please be sure the address gets corrected as it will speed up the mail.

SIGURD HOLME

LINE UP WITH PHILCO

...The Name Everybody Knows

EVERYONE AGREES that home freezer units will be one of the most wanted pieces of household equipment after the war.

And everyone agrees that locker plants will be natural, made-to-order sales outlets for home freezers.

So your problem is reduced to "What freezer?"

There is no better answer than Philco! For when you line up with Philco you get the selling punch of one of America's best-known and most respected names. Plus the kind of aggressive advertising and merchandising support which has always backed up every Philco product!

PHILCO looks to pleasant and profitable connections with alert locker plant owners once production is started on its complete line of Home Freezer Chests. Yes, it will be a complete line, with advanced features and

sizes to give you the right unit for every requirement, large or small.

Look to the future! And look to Philco to make that future more profitable!



PHILCO

*Famous
for Quality
the World Over*

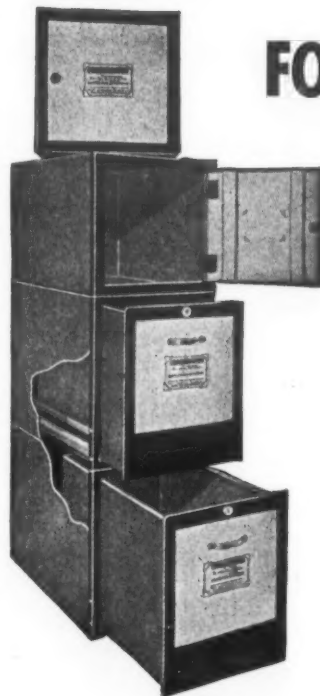
A First By MASTER

When the industry was young, MASTER was the first to manufacture and recommend the use of the lower drawer. That was one of the many examples of MASTER foresightedness.

Why not profit by this foresightedness and equip with

Since 1935

MASTER FOOD CONSERVATORS



They are solidly built of steel by men who pioneered the industry. They have features that assure profitable and economical Locker plant operation. It costs no more to get the "Choice of the Industry." If you want lockers that meet your every requirement—demand MASTER.

Write for full particulars

Safeguard your investment by getting the facts about MASTER before you buy any locker. It's the first-cost, last-cost locker. Better be safe than sorry.

Endorsed by and sold through distributors of refrigeration and insulation.

MASTER MANUFACTURING CORP.
121 MAIN STREET
SIOUX CITY 4, IOWA

Member of Frozen Food Locker Manufacturers and Suppliers Ass'n organized for your protection.

Over 700,000 Master Food Conservators in Use

Off the Chest

REPORT AND PLANS FROM ARGENTINA

Ave. Velez Sarfield 929
Cordoba, Rep. Argentina

Editor:

Believing that at any moment we may return to normalcy with the termination of the war, I am writing to you to tell you that I am interested in receiving your publication, AIR CONDITIONING & REFRIGERATION NEWS, and would appreciate your letting me know the price of a subscription.

I have received the Directory of 1941 which you were kind enough to send me; this publication has been very interesting to us, and if we have not derived a great deal of advantage from it, this is due to the interference of the Japanese dogs (the war).

I have spent 24 years in business, selling machinery, and 14 in the sale and also the manufacture of refrigeration equipment in the Republic of Argentina, whose development—particularly in domestic refrigeration—will, I hope, be very great when we return to normal times.

In air conditioning we are still in swaddling clothes, that is, in the city of Buenos Aires itself you can count the number of installations there are.

In commercial refrigeration we have made progress, and there are new and larger installations constantly.

My two sons will finish their courses in mechanical electrical engineering, with a major in civil engineering, next year, and I think they will take advantage of the experience of their father, who with their collaboration will be able to install a complete factory for the mass production of cabinets, including all

types of refrigeration and air conditioning installations.

I should also like to know what publications you have in Spanish pertaining to the industry.

Also, I am particularly interested in knowing what kind of systems are most adequate and most frequently used in the United States for conserving blood and blood plasma.

Thanks very much.

JOSE M. GARICIA

'TOPS'

Biehl's Auto Parts
Pottsville, Pa.

Editor:

For many years we have been subscribers of your very informative trade paper. In our humble opinion, it's "tops."

GORDON M. BIEHL

NEW ZEALAND CONCERN LOOKS TO DISHWASHERS

Charles Begg & Co., Ltd.
Dunedin, New Zealand

Editor:

We have read with great interest your article entitled "Keep Your Eye On The Dishwasher."

Our Electrical Departments for many years have had numerous inquiries from prospective purchasers of dishwashing machines, and we believe that so far as New Zealand is concerned, if a satisfactory electric dishwashing machine for the home were available, that the market would be substantial.

We are therefore particularly interested in your statement that you have reason to believe that there may be a couple of new manufacturers of electric dishwashers in the United States. We should be very grateful if you could put us in touch with these manufacturers, because we would like to discuss with them representation in New Zealand.

CHARLES E. BEGG,
General Manager

PLANS AND STUDIES NOW FOR WORK HE'D LIKE LATER

88th Fighter Squadron
Burma

Editor:

I received your letter of July 3, but was unable to answer sooner because we were quite busy at the time. Due to censorship, I can't say much about it.

As for the living conditions here in Burma, life is very primitive. The people don't seem to know what the score is and don't give a hoot what comes or goes. They live in bashes made of bamboo and straw, that wouldn't make a good barn at home. As long as they get their rice, they're satisfied.

Sorry to say, I am not engaged in refrigeration work but am keeping in the mechanical end working as an airplane mechanic. Even though we are in the heart of the jungle, we have some electric refrigeration. However, air conditioning is out; although we could certainly use it.

We did run into something that would be expected in this climate and that was excessive operation. It was a late model Frigidaire used in our photo section. The unit was running too long and overheating and after shutting off, very often it would fail to start up again. The thermostat would kick in, but the motor would just hum. After checking it over, I had the box moved out of the dark room where it could get more air. Also, hooked up a 24-volt battery and a small motor with a little fan about the size of a defroster fan and had it blowing over the unit. We obtained the battery and fan from a cracked-up airplane. Since then we haven't had any trouble.

I want to thank you for taking care of my request on the G-E Manuals. With the outlook of the war so bright, I am interested in any new developments in the industry. I hope I am lucky enough to get a position in refrigeration when this mess is over. Here's hoping it is almost over.

SGT. JAS. KENNY,
88th Fighter Sqdn.

Wherever Women Meet-You'll Hear...

"ALL I WANT IS A BENDIX!"

AN OPPORTUNITY in the NEW Field of "HUMIDITY ENGINEERING"

Two or three men, thoroughly experienced in Air Conditioning Application Engineering, preferably with sales experience, will be headquarters-trained for District Management of Sales through Agents or Dealers for Kathabar Humidity Control Systems.

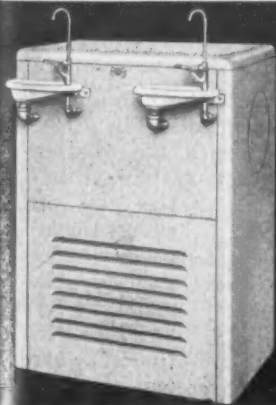
"Humidity Engineering" is an opportunity. Indeed! It has proved to be THE great advancement in industrial processing and comfort atmosphere conditioning, eliminating Chill, Shock, and Clamminess. Many repeat Kathabar System installations are the basis for proof of customer satisfaction. Exclusive operating features render the system most non-competitive—initial cost comparable—operating costs extremely low. It's the answer to humidity problems from air conditioning efficiency and economy standpoints.

Backed by broad advertising, promotional, and educational programs.

Good territories open for those who can qualify. Write, giving full details of education and experience in air conditioning.

Address:—Kathabar Division, SURFACE COMBUSTION, Toledo 1, Ohio

NOW! COOLERS FOR WAR PLANTS



Now they can be sold! Dry and Night glass filler coolers for industrial cafeterias; bubbler coolers for war plants.

WRITE FOR LATEST DATA
COOLER DIVISION
DAY & NIGHT MFG. CO.
MONROVIA - CALIFORNIA
FACTORY REPRESENTATIVES
NEW YORK CHICAGO
A.C. Dimeyer, 682 Bdw. - Marc Shantz, 565 Wash. Blvd.
ST. LOUIS DECATUR, GA.
R.H. Spangler, 3331 Market St. - J.E. Parker, 228 2nd St.

Right this minute, women are talking about, raving about, doing things about the one-and-only Bendix Automatic Home Laundry! Millions are planning to have a Bendix of their own, just as soon as the new ones are available. Over 300,000 women now have pre-war Bendix machines, and they're spreading the wonderful magic Bendix story of no-work washdays! Others are registering at their Bendix dealers for a postwar "priority" on the new Bendix. No other washing machine dealer ever had such a golden opportunity to strike it rich—in a market where his customers are already pre-sold on Bendix quality and operation! For the Bendix is known—is wanted—and will be sold in the millions!

NATIONAL ADS? Of Course! In Life, McCall's, Parents', True Story, Better Homes and Gardens, American Weekly, Good Housekeeping, and Sunday newspaper supplements.

NATIONAL RADIO? Of Course! Bendix spot radio announcements—unique, dramatic, set to the new ear-catching Bendix theme song—have already blanketed the nation!

ELECTRIC SIGNS? Of Course! Outdoor, Counter, Aisle and Window Signs in brilliant neon and fluorescent lighting. Distinctive Bendix identification.

MOVIES? Of Course! Specially-prepared Bendix minute-movies are being screened for later release to local motion picture houses! Real sales-makers!

STORE DISPLAYS? Of Course! Window, floor and counter displays! Store signs, truck signs, point of sale materials of all descriptions—by Bendix!

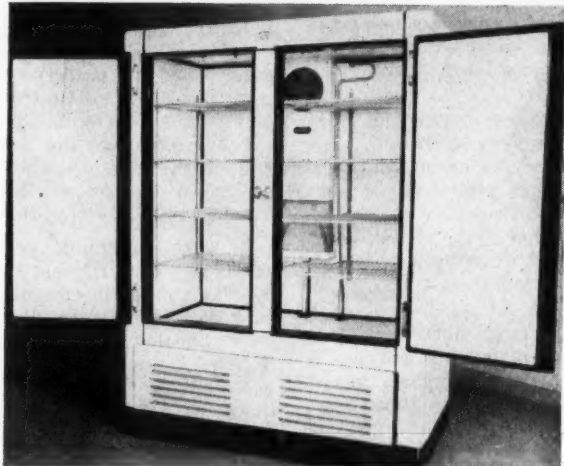
DEALER MATERIALS? Of Course! Newspaper ad mats, letterheads, publicity stories, stuffers, folders, book matches, decals—every dealer needs!

BENDIX automatic Home Laundry

Bendix Home Appliances, Inc., South Bend, Indiana ... Pioneers and Perfectors of the Automatic "Washer"

Rogers REACH-INS

Now available! Get your order in today!



Model Illustrated - 30 Cubic Feet

Other Models from 17 to 72 cubic feet

PORCELAIN INSIDE AND OUT

Equipped with 1/3 H. P. Universal Compressor

Send for Folder No. 4

MODERN APPLIANCE CO.

1355 MARKET ST., SAN FRANCISCO 3, CALIFORNIA

Those attending Market Week (S.F.) Feb. 5th to 10th
See our display at the Merchandise Mart

Harvester Co. Plans To Concentrate on The Farm Market

'Zero Chest' Is New Item

CHICAGO — Although it will include a home freezer unit in its postwar line, the Refrigeration Division of International Harvester will continue concentrating on the farm market, at least in the beginning, the company has announced.

Another new line to be offered postwar, in addition to the "Zero Chest," is the combination unit, providing both low and ordinary temperature refrigeration in the same chest. Both lines will be produced in a variety of sizes and models.

Prewar International refrigeration line included milk coolers and walk-in coolers, the latter being large capacity units capable of serving both as milk coolers and refrigerators for other farm produce. These units are being completely redesigned and restyled, and will be electric powered, as will all other International refrigeration equipment, the company said.

Decision to stick to the farm market for the present, at least, is based on the company's familiarity with that market, the tie-in with its other lines of farm equipment, and the fact that its distribution and service organization is geared to rural selling, it was said.

International Harvester Restyles Farm Cooler--and Plans New Freezer Chest Model



--and Plans New Freezer Chest Model



(Above) The farm machinery firm plans to put its walk-in coolers for farm use in the modern design shown here.

(Left) This is the model for the new "Zero Chest" home freezer which the company plans to produce. Also planned is a line of combination units, with both low temperature and ordinary refrigeration compartments.

Improved REFRIGERATION DRYERS

Weatherhead dryers using Silica Gel are made in both the rechargeable and non-rechargeable types. No felts or organic filters are required. Instead, a generous number of fine mesh stainless steel screens are used. Full flow is assured even at zero temperatures. The Weatherhead line of improved refrigeration products is available now.


In addition to refrigeration dryers, Weatherhead also manufactures complete lines of valves, manifolds, fittings, drain cocks and other products for the following industries:

AUTOMOTIVE
★
REFRIGERATION
★
RAILROAD
★
MARINE
★
FARM EQUIPMENT
★
ROAD MACHINERY
★
DIESEL
★
L. P. GAS
★
APPLIANCE MANUFACTURERS

Free

Write today or phone any branch office for our new, fully illustrated Refrigeration Catalog.



Look Ahead with 

Weatherhead

THE WEATHERHEAD COMPANY, CLEVELAND 8, OHIO
Plants: Cleveland, Columbia City, Ind., Los Angeles, Canada—St. Thomas, Ontario

BRANCH OFFICES: NEW YORK • PHILADELPHIA • DETROIT • CHICAGO • ST. LOUIS • LOS ANGELES

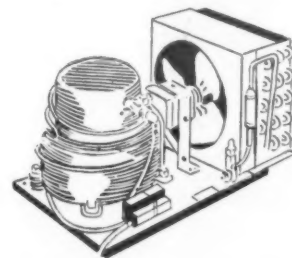
BALANCE

IS IMPORTANT IN HERMETICS TOO!

All of us here at Tecumseh are very conscious of the art of balance—we are fully aware of its supreme importance—we're building condensing units that are in perfect balance—built to tolerances in the ten-thousandth of an inch, resulting in smooth perfection of movement, comparable to the finest timepiece—without noise and without vibration.

However, the condensing unit must also be in perfect balance with the final refrigeration system, otherwise all our efforts toward perfection in the condensing unit are lost. And that's where our engineers excel.

Before settling on postwar designs consult "Chieftain—The leader in Hermetics." For complete data write our sales department.



Chieftain

TECUMSEH PRODUCTS CO.
TECUMSEH, MICHIGAN

Utility Sales of Appliances Will Help, Not Harm, Retailers, Greenwood Believes

'Fair Competition' by Utilities Is Promised;
Coordinated Promotion Seen as Aid to Both

NEW YORK CITY—Postwar marketing plans by "business managed" utility companies will not adversely affect department stores and other established retailers in the electrical appliance field, it was promised by C. E. Greenwood, commercial director of Edison Electric Institute, in a recent statement for the National Retail Dry Goods Association.

On the contrary, he said, by co-operating with national promotion by the electrical industry, retailers "can be in the forefront in development of an electrical peacetime market" whose potential sales "stagger one's imagination."

Stressing the benefits to be gained by retail-utility coordination, Greenwood pointed out that interested trade groups and the Edison Electric Institute are developing a proposed "statement of merchandising procedure for peacetime selling" which will lay the groundwork for "fair and open competition." This statement, he said, will include reference to trade-in offers and other sales inducements, deferred payment features, and direct assistance to retailers in numerous classifications.

Explaining that retailers did about 85% of the \$1,500,000,000 appliance volume in 1941, with utilities accounting for the remaining 15%, Greenwood said that preliminary surveys indicate little changes in this prewar ratio when civilian sales are resumed.

He disclosed, however, that many utility companies will intensify on market development for electric cooking, water heating, automatic ventilation, and air conditioning after the war. They also will promote room cooling applications and the home freezing and home storage of frozen foods.

As to exclusive lines controlled by utilities, he declared that "it would appear to me that any dealer should be able to retail an appliance the utility controls . . . and wherever practicable, utilities will refrain from accepting exclusive franchises for appliances other than those in the pioneering stages."

Greenwood said that study had indicated that the past criticism of utilities engaging in appliance merchandising arose from selling methods employed rather than the mere fact that appliances were being sold by the utility firms. He cited legal decisions giving utilities the right to merchandise appliances.

In his statement, Greenwood noted that a survey among utility companies recently "revealed that 107 companies out of 200 answering estimated the mortality of dealers in communities served would be over 50%, and only 50 additional companies believed it would be less. This was based on 1945 as the victory period."

In commenting on postwar merchandising trends in the appliance field, he said: "The time is not far distant when electric ranges will be a common item of merchandise in department stores. Ensemble selling will be a feature of electrical growth in postwar days. For example, the all-electric kitchen and electric home laundry will hold important places in utility promotional schedules."

Although it might be assumed that there will be an urgent need for aggressive selling by utilities, Greenwood asserted, this should not make for a "minus element" in a retailer's sales with a properly planned and coordinated utility-retailer program.

Heads New Outlet



WM. L. BOWDEN

Vice president and manager of the newly formed F. B. Connelly Co. of Oregon, distributor of Norge and other appliance lines.

Commercial Dishwasher Production Okayed

WASHINGTON, D. C.—A small size commercial dishwasher and a popular size commercial glasswasher may now be produced for sale to hospitals, institutions, in-plant feeding establishments, and to fill other essential needs in order to maintain adequate sanitary conditions, WPB announced Jan. 3.

The dishwasher will have a minimum capacity of 500 dishes per hour and the glasswasher will have a minimum capacity of 2,000 per hour.

Although additional models are being permitted, restrictions limiting the amount and kind of materials that can be used are still in effect, WPB officials explained. Until the materials situation improves, only victory models using no stainless steel and a limited amount of copper will be permitted.

The amendment to Order L-248 also removes any reference to the percentage of the base year production that will be permitted. By eliminating this percentage reference, production can be increased or decreased in accordance with the supply of material and with stated needs without changing the order itself. Production is now programmed according to the stated needs of claimant agencies and is rigidly controlled by means of special authorizations from WPB.

The amended order also provides that applications from new manufacturers will be accepted and requires applicants to consult with WPB field representatives before submitting Form WPB-3820 concerning their manpower requirements.

HAVE YOU EVER
WATCHED THE PLEASURE
OF A HOUSEWIFE
AS SHE ADMIRES HER
STAINLESS STEEL
CUTLERY? SHE WILL
HAVE THE SAME LOVE
FOR STAINLESS STEEL
REFRIGERATOR SHELVES



**WALL WIRE
PRODUCTS
COMPANY**

11333 GENERAL DRIVE
PLYMOUTH, MICHIGAN

Makers of STAINLESS STEEL AND
RETINNED REFRIGERATOR SHELVES AND WELDED WIRE PRODUCTS

HOTPOINT ANNOUNCES... An Entirely New Dealer Franchise Plan

Hotpoint's Policy for Appliance Merchandising Is Essentially This:

**A SELECTIVE DEALER FOR A SPECIFIC MARKET
A SPECIFIC MARKET FOR A SELECTIVE DEALER**

Thus, Hotpoint's Policy Is Mutually Beneficial
Because It Is Mutually Selective and Protective

Painstaking research, to determine the potential of each market, is the foundation upon which a Hotpoint Selective Dealer Franchise is awarded. Being protective as well as selective, Hotpoint's Selective Dealer Franchise Plan affords an opportunity to plan and build a retail appliance business, for the present and future, on a dignified and profitable basis.

A Complete Line of Kitchen and Laundry Appliances

ELECTRIC RANGE	ELECTRIC WATER HEATER
ELECTRIC REFRIGERATOR	ELECTRIC CLOTHES DRYER
ELECTRIC HOME FREEZER	ELECTRIC PORTABLE IRONER
ELECTRIC COMBINATION REFRIGERATOR	ELECTRIC TABLE-TYPE IRONER
ELECTRIC WRINGER-TYPE WASHER	ELECTRIC DISHWASHER
ELECTRIC AUTOMATIC WASHER	ELECTRIC DISPOSAL
	CABINET-SINK
	ALL-STEEL CABINETS

No "Postwar Babies" In Hotpoint Line

All Hotpoint appliances are beyond the promotional stage. In no sense are they "postwar babies." They were all designed, tested, and in demand before Pearl Harbor.

Hotpoint's postwar appliances will form a complete line of electric kitchen and laundry appliances that will permit the Hotpoint selective dealer to compete successfully for sales in all income brackets. Edison General Electric Appliance Co., Inc., 5632 W. Taylor St., Chicago 44, Ill.

Hotpoint

Dependability Assured
By
40 Years' Experience



BETTER CARE
LESS REPAIR

HOTPOINT REGIONAL SALES OFFICES. EASTERN: 570 Lexington Avenue, New York City 22, Plaza 3-9333. SOUTHERN: 304 Red Rock Building, Atlanta 3, Walnut 2959. CENTRAL: 1456 Merchandise Mart, Chicago 54, Superior 1174. WESTERN: Western Merchandise Mart, 1355 Market Street, San Francisco 3, Underhill 2727.

HOTPOINT

Electric Kitchens

REFRIGERATORS • RANGES • WATER HEATERS • HOME FREEZERS • WASHERS AND IRONERS • CLOTHES DRYERS • DISHWASHERS • DISPOSALS • CABINET-SINKS • STEEL CABINETS

**MANHATTAN
FHP V-BELTS**

MORE POWER
Grips the grooves . . .
stops slip—flexible
construction for uniform
"pull"

**LONGER
WEAR**

Endless cord construction resists internal heat and side wear.

**SILENT
RUNNING**

Smooth running and noiseless on high-speed drives.

THE MANHATTAN RUBBER MFG. DIVISION
of Raybestos-Manhattan, Inc.
Townsend Street Passaic, New Jersey

'Honest Dealing With Public' Needed To Improve Air Conditioning Sales

Grant of Carrier Tells ASRE Ways To Solve Problem of Partial Loads

NEW YORK CITY—"The air conditioning industry must do a better job of selling by dealing honestly with the public," declared Walter A. Grant, director of application engineering for Carrier Corp., who addressed the fortieth annual meeting of the American Society of Refrigerating Engineers at Hotel Pennsylvania here recently.

"It is incumbent upon us engineers to put our house in order; to do a better job of application," he emphasized in discussing his prepared paper, "A Comparison of Methods for Controlling Evaporators and Compressors Used in Air Conditioning."

Poor Performance Delays Acceptance

The foremost shortcoming of most comfort cooling systems is the poor performance under conditions of partial load, said Mr. Grant. It is an industry dilemma, because it is a factor delaying public acceptance of air conditioning; it is an application problem because equipment is already available and satisfactory systems can be designed; it is a sales problem

because there is very little question that good air conditioning can be sold over bad air conditioning, he pointed out.

This view was heartily supported by many A.S.R.E. members from the floor, and A.S.R.E. Vice President Charles S. Leopold, the chairman of this technical session, commented, "I agree."

"In cooling, as in heating, the maintenance of a steady-state condition requires matching the capacity of the equipment which performs the cooling against the load. In other words, heat must be transferred to and removed by the cooling apparatus at the same average rate at which it is produced at the load source," he explained.

To produce the desired results in the conditioning of air Mr. Grant said that it is necessary to use one or more of these control methods: evaporator control, compressor control, and reheat control.

Controlling the evaporator is intended to prevent the formation of frost; control the weight of air which contacts the surface, assuming the average surface condition of temperature and (when wet) moisture

content; control the temperature of the evaporator surface. Such control can be used without high side control, in which case the compressor capacity is self-regulating due to reduction in suction pressure with decrease in load, stated Mr. Grant.

"Purpose of the compressor control is to reduce the useful pumping effect of the refrigerating machine to match the evaporator load. This may be done by (1) imposing an artificial load, (2) imposing an artificial pumping head, or (3) varying the capacity of the machine.

Control Requirements

"Compressor control may be used without the simultaneous use of an evaporator control, but it should be recognized that any change in useful pumping effect will necessarily change the temperature of the evaporator surface, and thereby change the condition of the air.

"For this reason, the necessity for control, as well as power and operating considerations, will frequently dictate a combination of evaporator and compressor control.

"Reheat control is required under load conditions where regulation of the evaporator alone results in absorption of the latent heat with sensible overcooling. Reheat may sometimes be used in lieu of evaporator control. Such a requirement

arises from the psychrometric properties of air, but may be influenced by the efficiency of the evaporator as an air contacting device and the arrangement of other system elements.

"Reheat can be combined with evaporator control, as well as with the combination of evaporator and compressor control, to produce any desired conditions within the capacity of the equipment."

The simplest method of unloading evaporators, ("and probably the worst," says Mr. Grant) is intermittent control. "It may occur with off-on operation of compressors, or when cutting out cooling surface with a solenoid valve, so untreated air passes directly through it. . . .

"Theoretically, off-on control is satisfactory when little or no ventilation air is taken through the equipment, but actual field tests have shown a jump of 10% to 15% in relative humidity due to re-evaporation alone. It is obvious that such a control is very bad, and its widespread use on small commercial equipment is one reason why the public is dissatisfied with 'clammy' air conditioning.

Cutting Out Coil

"Cutting sections of the coil out in steps is a considerable improvement over simple off-on, since outside air can be taken through the portion which remains active longest, but rehumidification can still occur from the section cut off."

Methods of reducing the amount of air that contacts the coil surface and assumes the saturated dewpoint temperature corresponding to the surface were listed by Mr. Grant as follows: volume control, air bypass, face control by solenoid or modulating expansion valves, row control by solenoids or modulating expansion valves, and separate evaporators for outside and return air with control on the latter.

"Within limits, and properly applied, these controls are good where a ceiling rather than upper and lower limits of humidity is to be maintained," declared Mr. Grant. "They are quite good for applications such as comfort cooling where the desired humidity should not be exceeded and where lower humidities are permissible. Nevertheless they have very definite limitations."

Bypassing outside air, either around the coil physically or through inactive coil surface, damages the

room dewpoint and therefore requires a lower apparatus dewpoint to counteract it, contends Mr. Grant. If return air is bypassed first, this damage is minimized, but even with this arrangement a point is reached at low load when the ventilation air must also be bypassed, he said.

"In other words, with any scheme, some point is reached where an impossibly low apparatus dewpoint must be maintained, and at this point, reheat is necessary."

Cutting out successive rows of surface in the direction of airflow (row control) is not desirable because it will cause a mixture of outside and return air to bypass, explained Mr. Grant.

Minimizing Bypassing Of Untreated Air

"The air bypass and separate evaporators in outside and return air ducts, can, when properly applied, minimize the bypassing of untreated outside air. Face control (cutting out blocks of surface across the face of the coil) can also do this but is usually uncertain, because it depends on stratification of the air.

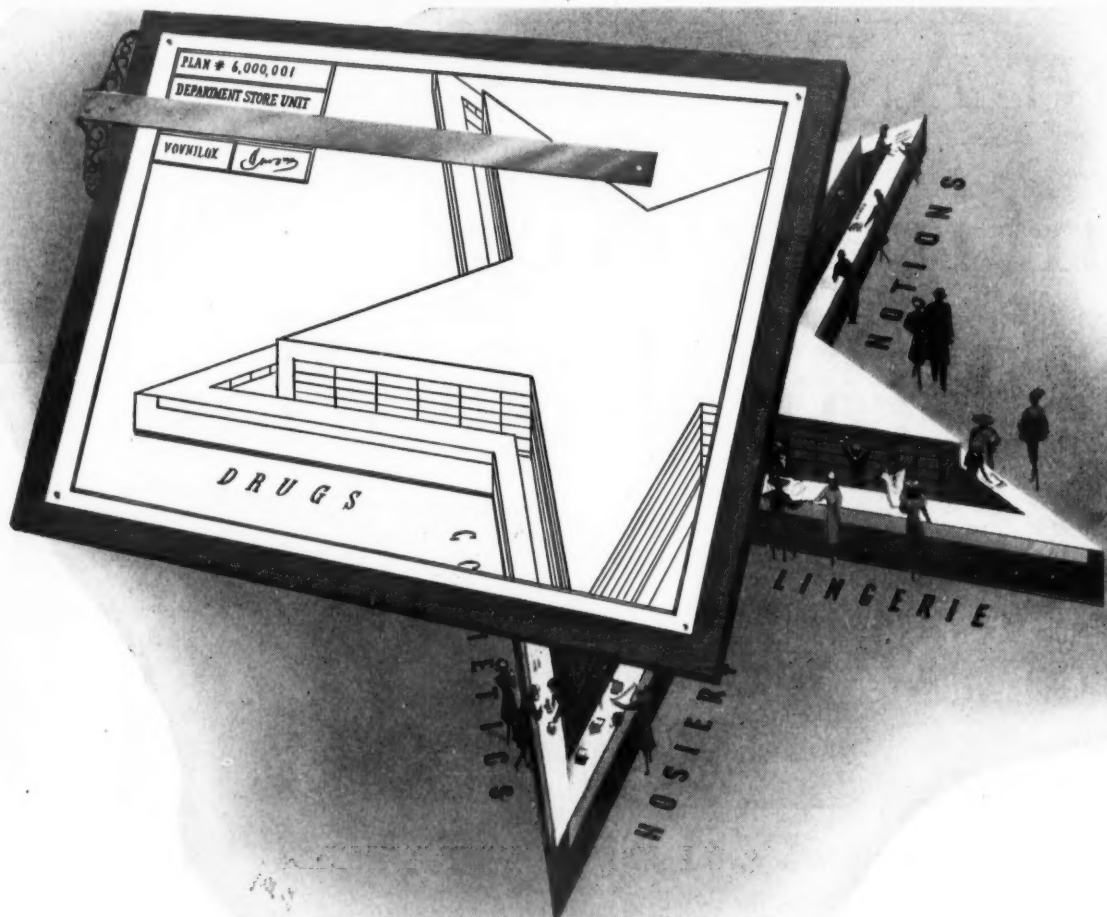
"Volume control is unsatisfactory because both total volume and ventilation are reduced. Incidentally, many arrangements of bypass tend to reduce ventilation at low load, when it ought to be increased," averred Mr. Grant.

Admitting that the volume control methods as outlined were satisfactory for controlling room temperature and maintaining a ceiling on humidity, Mr. Grant emphasized that to maintain humidity within specified limits it is necessary to control the coil temperature as well as coil surface.

"This regulation can be performed by a suction throttling valve or compensating back pressure valve, controlled by room wet bulb or humidity; these can be classified as evaporator unloading devices," said Mr. Grant.

"Alternatively, an air preheater or water heater in the spray over the coil (when used) can be actuated by room humidity to impose a sufficiently high load upon the evaporator and compressor so that the suction temperature and apparatus dewpoint are raised to the proper level; such devices are properly classed as loaders.

"Control equipment for performing (Concluded on Page 15, Column 1)



YOUR SHARE of the Postwar Store Air Conditioning is on Architects' Drawing Boards—Today

Realizing that customers will be more selective than ever about what they buy and where they buy it, astute merchandisers are planning their postwar success today. Air conditioning is a natural and important part of their plans.

Many architects, engineers and air conditioning contractors are at work on such plans. The contractors are important members of these "teams." They bring valuable practical experience to the task of planning America's commercial future. Undoubtedly you, too, are at work on your share of tomorrow's commercial and industrial building.

Westinghouse Air Conditioning Contractors find it practical to serve on this building "team." For the line of Westinghouse equipment is well established, backed, as it is, by years of pioneering research and engineering experience.

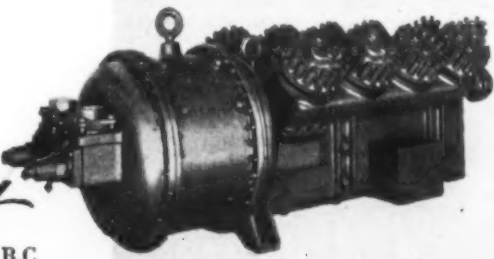
For essential war uses, Westinghouse Air Conditioning and Industrial Refrigeration equipment is available today.

For executives, architects and engineers now planning postwar building and modernization, dependable data and competent engineering assistance are ready.

Phone your nearest Westinghouse office, or write on your letterhead to Westinghouse Electric Elevator Company, 150 Pacific Avenue, Jersey City 4, New Jersey.

HERMETICALLY-SEALED FOR DEPENDABILITY

Westinghouse pioneered the Hermetically-Sealed Compressor. Hermetically-sealed means light weight • small size • low maintenance and operating costs • high efficiency • long life.



Service Engineers Should Know...



"VIRGINIA" METHYL CHLORIDE IS REALLY LABORATORY TESTED

— the content of each and every container — large or small — is analyzed 3 separate times.

BOILING POINT TEST

1. A measured sample from each cylinder must be water-white in color and when boiled to dryness must record within 25/100 of 1 degree a constant boiling point of minus 23.8°C. This test detects unwanted hydrocarbons, dirt and oil impurities.

ACIDITY TEST

2. The acid content in a sample of known weight must not exceed 6 parts per million; low acidity prevents copper plating and oil sludging.

MOISTURE TEST

3. The moisture in a sample of known weight must not exceed 80 parts per million; — low moisture prevents freezing at expansion valve and refrigerant break-down.

The name "V-METH-L" on the cylinder is your guarantee of quality. Sold by refrigeration supply jobbers everywhere.

VIRGINIA Smelting Co.

WEST NORFOLK, VA.

76 BEAVER ST., NEW YORK 5 • 131 STATE ST., BOSTON 4
Agents for Kinetic's "Freon-12" — "Freon-22" — "Freon-11"

Westinghouse
PLANTS IN 25 CITIES • OFFICES EVERYWHERE
Air Conditioning

Westinghouse presents John Charles Thomas • Sunday, 2:30 E.W.T., N.B.C.
Ted Malone • Mon., Wed., Fri. 10:15 E.W.T., Blue Net.

Merits of Bypass, Loader and Unloader Methods for Partial Loads Discussed

(Concluded from Page 14, Column 5)

the function discussed above is available and needs little discussion here. One relatively recent development is the modulating expansion valve. It is a device for regulating the amount of active evaporator surface. It is not generally recognized that it is the functional equivalent of the air bypass, except that it is inherently difficult to avoid by-passing a mixture of outside and return air. Like the bypass, it is normally useful only as a room temperature control.

"Suction throttling valves are simply a design of packless valves for refrigeration duty," continued Mr. Grant. "Unfortunately, these are not now available at a reasonable price, and the larger sizes are not available at all. It appears certain that there is an important need for such valves in industrial air conditioning and commercial refrigeration for regulation of coil temperature to respond to an external controlling element."

Changing the Load On the Compressor

Usually in connection with the control of effective evaporator surface, it is necessary to keep the pumping effect of the compressor in line with the evaporator load, pointed out Mr. Grant. This can be done by artificially loading or unloading the machine.

"The compressor may be loaded artificially by transfer of heat to the suction gas. This heat may come from an external source or from the hot discharge gas leaving the compressor.

"The two devices which have attained commercial importance both use hot gas. Balance loaders transfer the heat indirectly through metal walls, boiling off refrigerant and forming more gas on the suction side for the compressor to handle. They are usually controlled by a constant pressure expansion valve, opening on falling pressure to maintain a minimum evaporator pressure.

"Hot gas bypasses transfer the discharge gas directly into the low side. They are usually controlled by a constant pressure gas valve, which acts to admit gas to the low side as the evaporator pressure tends to drop, thereby keeping the pressure in the low side substantially constant. . . .

"Taking all things into consideration, the balance loader appears to offer no advantages over a properly applied hot gas bypass, and it is inherently more expensive since it requires a sizeable heat exchanger."

Loading Saves No Power

In general, loading devices don't save power, since their function is to load rather than unload, points out Mr. Grant. "Their most useful purposes are to prevent frosting up of evaporator surface and avoid operation of compressors at excessively low back pressure. When used to supplement an unloading device, the advantages can be obtained with a saving in power as well."

Intermittent operation provides the simplest method of unloading a compressor, but if it is controlled from the load, such as by a room thermostat, wide swings of evaporator surface temperature result, according to Mr. Grant.

"This may be satisfactory on many types of liquid cooling and commercial refrigeration applications, but is usually unsatisfactory for air conditioning," he declared.

"Two-step control from the load is appreciably better than simple off-on," he continued. "It may be accomplished with two compressors, or a two-speed motor on one compressor, or any form of 50% cylinder control. If the evaporator is not un-

loaded in proportion to the 50% compressor capacity reduction, the surface temperature remains at a high value, which may be undesirable in air conditioning work. This situation is much improved by a proportionate reduction in evaporator surface, in which case the effect is similar to a two-position air bypass. . . .

"Another method of building up an artificial pumping head is raising of condenser pressure, such as by throttling water quantity. This is not usually a permissible control on reciprocating machines, because power is increased, tending to overload the motor.

"Since varying degrees of operating economy can be achieved by steps of unloading, its use in combination with a satisfactory evaporator unloading method such as an air bypass can give both excellent results and power saving," contended Mr. Grant.

Four-Step Operation

A four-step operation to accomplish the above was outlined by Mr. Grant. The steps could consist of separate machines: two machines, one with a two-speed motor; or a single machine with four equal steps.

"Power saving is good, but where short cycling is to be avoided at the control points, the spread between cut-in and cut-out settings results in unduly high suction and surface temperatures near the cut-in point if frost is to be avoided near the cut-out point. This condition is immensely improved by the use of a suction pressure regulator which permits lower suction pressure to be carried without danger of freezing, although power is somewhat increased.

"Where short cycling can be permitted, as with most cylinder unloaders, it is possible to maintain a reasonably constant suction pressure, falling between steps only at the rate required to actuate the device," he continued.

"Furthermore, when the cycling is so rapid as to assure essentially a uniform average condition of surface temperature at a given load, it is possible to control the unloader from an external actuating source such as temperature or humidity. . . . Alternatively, the surface temperature can be controlled from a room humidistat or wet bulb controller at any value required to maintain room conditions down to the low load where reheat must be used to produce the desired results."

Mr. Grant next outlined four methods of cylinder control: clear-

ance pockets, cylinder suction throttling applied to one or more individual cylinders, cylinder bypasses, and suction valve lift.

The latter is "inherently the most efficient means of unloading, so far developed, since passage in and out of the suction valve involves less loss than the other methods discussed above. It also permits unloading individual cylinders with no serious space penalty and at moderate cost," averred Mr. Grant.

In discussing his paper, Mr. Grant emphasized his contention that reheating is essential for satisfactory air conditioning operation, especially during the spring and fall when it is difficult to maintain optimum conditions with a system that operates satisfactorily only at full capacity.

Commenting on the paper, John Consley agreed with Mr. Grant that reheating is necessary and that capacity reduction through cylinder unloading has better horsepower characteristics and is safer. The need for a master outside thermostat controlling inside temperature regulators and/or an effective temperature thermostat to control the operation of an air conditioning plant was also cited by Mr. Consley.

A. B. Newton of Airtemp Division, Chrysler Corp., likewise agreed in general with Mr. Grant's contentions, adding that he had measured fluctuations in relative humidity as high as 25% with intermittent operation.

Israel Kramer of Kramer-Trenton Co. took issue with Mr. Grant on the bypass methods of obtaining partial capacity operation of an air conditioning system. According to Mr. Kramer, there have been many such installations which have given satisfactory results.

SERVICE SIMPLIFIED GREATER SATISFACTION LONGER OPERATIVE LIFE

— a sure thing when
**AMINCO
OIL SEPARATORS**

protect Coils, Condensers, Compressors, Valves and Dehydrators by picking oil out of the refrigerant stream and AUTOMATICALLY returning this oil to its proper place, the crankcase.

Now that replacements are hard, almost impossible to get, those charged with the responsibility of maintaining existing equipment are looking for longer operative life and reduced operating costs.

Aminco Oil Separators protect compressors by maintaining correct oil level in crankcase and by excluding oil from refrigerant stream they enable coils, condensers, valves and dehydrators to function most efficiently.

These oil separators are made for jobs from 1/2 H.P. to 120 tons and are used everywhere, ashore or afloat, where efficient refrigeration is desired.

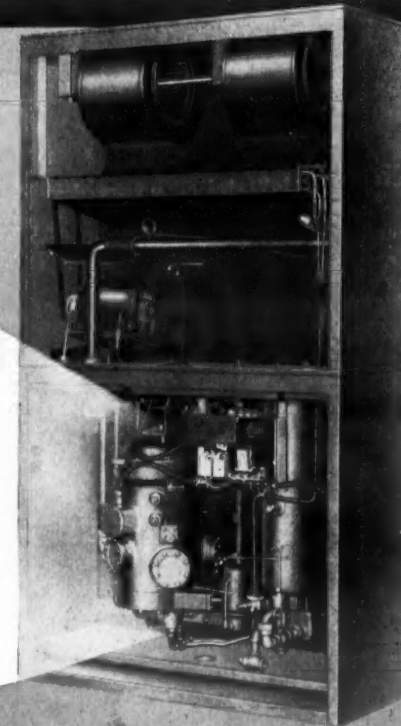
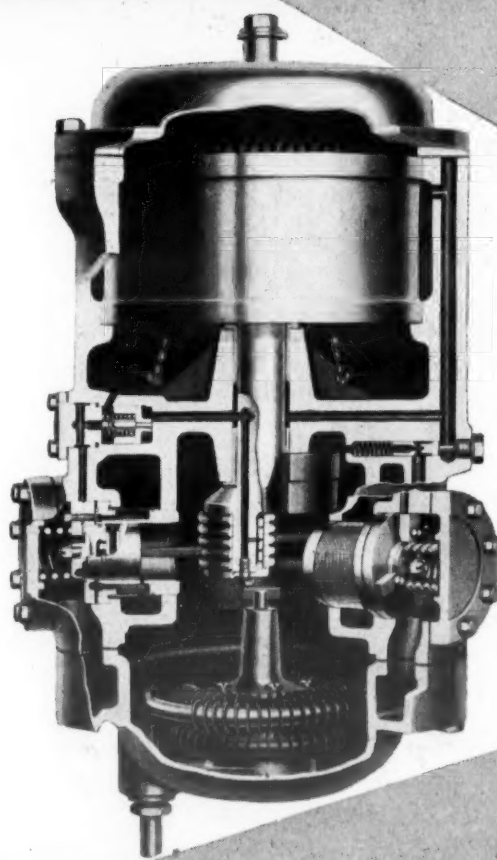
Full descriptive bulletins on request.



AMERICAN INJECTOR CO.
1481 Fourteenth Avenue DETROIT 16, MICHIGAN

Van D. Clothier, 1015 E. 16th St., Los Angeles, Calif.
George I. Boone, 739 G. M. Bldg., 1775 Broadway, New York 19, N. Y.
William H. Cody, 2nd Unit, 10th Floor, Santa Fe Bldg., Dallas, Texas
Export: Borg-Warner International Corp., 310 S. Michigan Ave., Chicago, Ill.

CHRYSLER AIRTEMP



**PACKAGED
AIR CONDITIONING**

CHRYSLER AIRTEMP RADIAL COMPRESSOR

*Hermetically Sealed in a Bath of Oil
to Assure Long, Trouble-Free Life*

With dust, dirt and moisture kept out—oil and refrigerant sealed in—by a wall of steel, the Chrysler Airtemp compressor—hermetically sealed in a bath of oil—is trouble-free and quiet.

Pioneers of Packaged cooling and air conditioning units—Chrysler Airtemp has been a leader since 1937.

The 3HP and 5HP Packaged units, singly or in multiple, have proved to be applicable to most air conditioning and cooling requirements. The Chrysler Airtemp radial compressor with its many outstanding

features in design, construction and performance provides low operating costs, long life—through Superfinish of vital parts—and freedom from vibration.

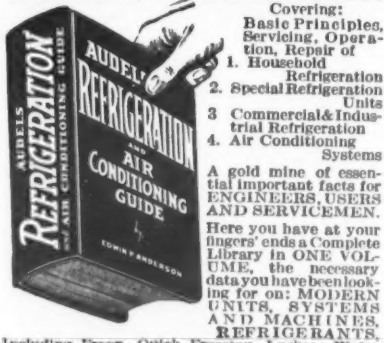
When you have a temperature-humidity control problem, turn to Chrysler Airtemp. You will find that there is a unit and capacity range ideal for practically every air conditioning or commercial and industrial refrigeration need. • Airtemp Division of Chrysler Corporation, Dayton 1, Ohio. • In Canada, Therm-O-Rite Products, Limited, Toronto, Ontario.

Buy More War Bonds! Tune in Major Bowes every Thursday, CBS., 9 p. m., E. W. T.

HEATING • COOLING • REFRIGERATION

AUDELS REFRIGERATION and AIR CONDITIONING GUIDE

JUST OUT! 4 Books in One!



Covering:
Basic Principles,
Servicing, Operation,
Repair of
1. Household
Refrigeration
2. Special Refrigeration
Units
3. Commercial & Industrial
Refrigeration
4. Air Conditioning
Systems

A gold mine of essential important facts for ENGINEERS, USERS AND SERVICEMEN. Here you have at your fingers' ends a Complete Library in ONE VOLUME, the necessary data you have been looking for on: MODERN UNITS, SYSTEMS AND MACHINES, REFRIGERANTS, Including Freon, Quick Freezing, Lockers, Water Coolers & Air Conditioning Systems.

ANSWERS YOUR QUESTIONS.
1280 Pages, 46 Chapters all Fully Illustrated & Indexed for Ready Reference.
4 COMPLETE • PAY ONLY \$1 A MONTH
Get This Information for Yourself, Mail Coupon Today. No Obligation Unless Satisfied. ASK TO SEE IT.

AUDEL, Publishers, 49 W. 23 St., N. Y. 10
MAIL AUDELS NEW REFRIGERATION GUIDE for free examination. If O.K. I will send you \$1 in 7 days; then remit \$1 monthly until price of \$4 is paid. Otherwise I will return it.

Name _____
Address _____
Occupation _____
Employed by _____ R-12

More
important
than ever
in the war
on moisture



IMPERIAL TORPEDO DEHYDRATOR

One piece streamlined shell—fewer joints—no soft solder—less chance of leakage. Copper and brass construction. Packed with "Silica Gel". Built in sizes up to 7 h.p.

IMPERIAL BRASS MFG. CO., 565 S. RACINE AVE., CHICAGO 7, ILL.

They'll Do It Every Time By Jimmy Hatlo



Trade Mark
registered U. S.
Patent Office;
Est. 1926

Air Conditioning & REFRIGERATION NEWS

Copyright, 1945,
Business News
Publishing Co.

F. M. COCKRELL, Founder

Published Every Monday by BUSINESS NEWS PUBLISHING CO.
5229 Cass Ave., Detroit 2, Mich. Telephone Columbia 4242.

Subscription Rates: U. S. and Possessions, Canada, and all countries in the Pan-American Postal Union: \$4.00 per year; 2 years for \$7.00. All other foreign countries: \$6.00 per year. Single copy price, 20 cents. Ten or more copies, 15 cents each; 50 or more copies, 10 cents each. Send remittance with order.

GEORGE F. TAUBENECK
Editor and Publisher

PHIL B. REDEKER, Managing Editor

C. DALE MERICLE, Assistant Editor
ROSS H. POTTER, Assistant Editor
RUSSELL F. MATHEWS, Assistant Editor
Editorial Assistants: BARBARA LEE,
MARCELLA PRICE, DOROTHY DURAND, AND
FRANCIS WEED.

JAMES B. SMITH, Advertising Mgr.
ELIZABETH SMITH, Assistant Bus. Mgr.
HELEN C. HENDERSON, Credit Manager
RUTH RICHARDSON, Subscription Mgr.

On leave of absence to serve our country:
U. S. Army: JACK SWEET, GEORGE L. COLLINS, GEORGE M. HANNING, AND
HUGH T. MAHAR. U. S. Navy: ROBERT P. NIXON, ED HENDERSON, JOHN R. ADAMS,
AND ANDREW GANTT. U. S. Marine Corps: PAUL R. PARK. U. S. Army Air
Forces: JIM MCCALLUM, GEORGE WATKINS, AND WILLIAM WALTER. U. S. Coast
Guard: MERTON GLUTTING. Waves: MARGARET MARR AND LYNDON JANE BRODE.

Member, Audit Bureau of Circulations. Member, Associated Business Papers.

VOLUME 44, No. 3, SERIAL No. 826, JANUARY 15, 1945

Handicapped Veterans

WITH total casualties past the half million mark—twice the total for World War I—and as indications are that they are likely to be heavier before they get lighter, we are more than ever faced with the necessity and urgency of getting prepared now to supply jobs to the war disabled when discharged from the service.

Recent surveys conducted in several representative cross-sections of American industry showed that while great interest is manifested in this problem and its importance universally recognized, the number of concerns that have actually done something about getting ready to reemploy physically disabled veterans was at the most 52% and ran as low as 16%.

There are numerous reasons for this situation. So far there have been plenty of jobs available to physically disabled veterans. Manufacturers everywhere, particularly those engaged in war production, have had so many pressing and perplexing problems that some just haven't had time to do anything about this question; others have felt that it was a matter for the large concerns to handle and consequently many have not realized that this responsibility and obligation must be accepted individually by small concerns as well as large ones.

Not long ago a Cleveland engineering concern sent out an inquiry to 10,000 executives throughout the country asking for information about the employment of disabled men in their plants.

It was encouraging to learn that they received practically 100% assurance that everything would be done to give jobs to disabled veterans, but it was disturbing to find that so few companies had thus far taken any real action in anticipation of this problem. The report goes on to say:

"From the replies to our inquiry, we found that a great many companies were anxious and eager to do something about this problem, but were not doing anything as yet, because thus far, no disabled veterans had come home to their plants looking for jobs.

"But why wait? The proper approach to this situation is to do a job of preparedness right now, so that when a disabled veteran does come home you will know where you can place him.

"This means a program of job analysis in your plant. Analyze the physical requirements of each job you have.

"What does it take to do each job? Can it be done minus an arm or an eye? List your jobs in relation to the various types of physical disabilities.

"Then when a veteran comes home and walks into your plant, you will know what to do with him. Look at your job analysis sheet and you will find the list of jobs he can do with the disability which he has. . . .

"That's what we've got to do with our 'disabled' returning veterans. There are jobs that all of them can do. For the jobs that they can do, they are not disabled.

"They can do these jobs and do them just as well as anybody else. They can earn their money on the same basis as anybody else. They can be self-respecting, self-supporting citizens of the community, earning a living because of work well done, like anybody else!

"It's your responsibility to make sure that they get their chance."

There is need for active cooperation to sell this preparedness program to industry and business executives all over the country. Can anyone question for a moment the importance of being fully prepared so that when the wounded veterans return they will be given immediate and effective attention and a chance to come back?

Back the Attack Buy War Bonds



The new M-24 Tank is a 20-ton slug-and-run weapon which mounts a 75 mm cannon and races along at better than 40 miles an hour on Tank Tracks made by Inland.

Wide trackage and reduced ground pressure contribute materially to the greater maneuverability of this light and fast combat weapon.

Since June before Pearl Harbor, Inland has been applying its experience in rubber and metal to the quantity and quality manufacture of tracks for tanks and tank destroyers.

Tank Tracks are one of the many Inland products for Victory which are helping Americans slug through the stubborn defenses of the enemy in both the Pacific and European theatres of war.

INLAND MANUFACTURING DIVISION, General Motors Corporation, DAYTON, OHIO



Inland Products for Victory include Carbines, Tank Tracks, Gun Sights, Helmet Liners, Extinguisher Horns, and Rubber, Synthetic Rubber and Metal Parts for Tanks, Aircraft, Submarine Chasers, Torpedo Boats, Artillery Lighters and Landing Craft.



INLAND

Manufacturing

RUBBER, METAL, PLASTICS

Heads New Department



E. A. BONNEVILLE
Who has been named manager of
Crosley Corp.'s new kitchen cabi-
net department.

Sergeant Fears Collapse If '25-Year-Terms' Apply

(Concluded from Page 1)

Debt saturation. The most self destructive element of our financial structure is not so much the percentages that the purchasing power is decreased by interest, but the attainment of a state of debt saturation point. It seems to be a habit of a large part of the buying public, when permitted to do so, to take on more in the form of long term mortgage until the remaining element of the variable known as purchasing power is reduced to zero.

When this situation becomes widespread, the purchasing power of a whole area suddenly drops to zero.

It seems that the cause could be correctly called a saturation of debt. The only purchases left then are the direct necessities of life. What then happens to the other industries and everything connected with them?

This does not mean that no long term purchase is sound. But, if the sales on terms for any year is greater than the sum of the total dollar value sold to a market during the period of the length of the terms plus the total amount of interest, divided by the length of the term; these sales are exceeding the rate the market is paying for the goods.

Thus, for a given market buying on five year terms, no more than one fifth of the total five year sales to that market can be made in any one year and still maintain a balance between the rate at which production takes place and the rate at which the

consumer pays for the goods. If such an average of all term sales to that market fails to keep within the limiting amount, we head for a fall.

I will make one little guess that something like that might have happened in 1929. The cause has been given as debt from the first World War, overproduction, hoarding, and a number of other things. None of which, although possible contributing factors, seems to add up right.

It's just my guess, too, that the more we encourage the mortgage of the consumers income for anything but equipment in which there will be a financial return to the purchaser sufficient to warrant the extra cost of time purchase, the greater will be the immediate boom after the war and the more violent will be the vacuum that will follow.

STAFF SERGEANT LEONARD N. FOX

Radio Industry Foresees Big Employment Gain

NEW YORK CITY—Postwar employment increase of 68.6% over 1940 figures is predicted for the radio industry following a survey of 202 firms employing 80% of all the industry's workers recently completed by the Radio Manufacturers Association.

Engaged exclusively in war work now, these firms now employ (July-September, 1944) 241,286 workers, and estimate postwar requirements at 145,266.

The accumulated demand to replace wornout receivers and the expected popularity of FM and television are given as reasons for the anticipated postwar employment increase over peacetime figures.

Trane Adds Test House For Experiments on Heating and Cooling

LA CROSSE, Wis.—A penthouse style structure designed to duplicate actual living conditions of the average, moderately priced American home will be built atop the Trane Co.'s downtown plant here as testing grounds for postwar heating and cooling equipment for small homes.

Intended as an extension of the present Trane testing laboratory, Rueben Trane, president of the company, explained that the building will be used to test heat exchange equipment. As the duplicate house, which will be constructed similar to most small homes, will be exposed to all types of weather and winds, it will be employed to determine amounts of heat lost through walls.

Designed as a test-house for home heating and air conditioning units, the building will be employed to test various small home heating and air conditioning systems under actual operating and living household conditions over long periods of time.

The structure, company officials explained, has been devised for measuring amounts of heat required in a house under various atmospheric conditions.

Information secured from tests of standard Trane laboratory equipment in this carbon copy of the typical small American home will be used in designing postwar heating and cooling equipment for moderately priced homes, according to Trane officials.

Gilmer BELTS

Keep your eye on present-day air conditioning and refrigeration equipment. Their importance to vital war production is building sales for alert men.

Naturally, a good supply of Gilmer Belts will have you ready to meet any belt emergency. Rugged, long-lived, and efficient, Gilmers are built to stand the gaff and do a topnotch job. Get in touch with a Gilmer jobber, and be ready for more business.

L. H. GILMER COMPANY
Tacony, Philadelphia 33, Pa.
Division of United States Rubber Company



Dependability doesn't happen...

IT'S BUILT INTO EVERY AP VALVE



MODEL 215
THERMOSTATIC EXPANSION VALVE



Designed for large commercial refrigeration and air conditioning applications, Model 215 has a capacity range of 3 to 6 tons Freon, and 6 to 12 tons Methyl or Sulphur. Available with or without equalizer, it is ruggedly built, super-sensitive with its extra large area diaphragm and can be installed in any position. Easy installation, adjustable superheat, simplicity of inspection



and adjustment are other features that add to its popularity among refrigeration engineers. Write for complete bulletin No. 408.

AUTOMATIC PRODUCTS COMPANY

2450 North Thirty-Second Street Milwaukee 10, Wisconsin
Export Department — 13 E. 40th St., New York 16, N. Y.

DEPENDABLE REFRIGERANT VALVES

STOCKED AND SOLD BY PROGRESSIVE REFRIGERATION JOBBERS EVERYWHERE —
RECOMMENDED AND INSTALLED BY LEADING REFRIGERATION SERVICE ENGINEERS

NEW TYPE REPLACEMENT SEAL SPARTON and TRUKOLD

Eliminate Old Bellows Type Cup Seal

Write for Descriptive Literature and Price

WOOLSEAL CORPORATION
293 EAST 149TH STREET BRONX 51, N. Y.

WHEN PEACE COMES

KOCH

WILL AGAIN PRODUCE COMMERCIAL
REFRIGERATOR EQUIPMENT FOR CIVILIAN USE

NOW SOME SELF-CONTAINED REACH-IN REFRIGERATORS
ARE AVAILABLE FOR THOSE WHO CAN
QUALIFY



Write — Wire — Phone

KOCH REFRIGERATORS
NORTH KANSAS CITY . . . MO.



YOU'LL WANT THIS BROCHURE



... to learn how you can benefit from the economies that have been
effected in the production of fabricated parts from non-ferrous tube.

... JUST OFF THE PRESS

This attractive, thirty-two page brochure describes diverse operations employed in the fabrication of tubular parts of copper, brass, and aluminum. It is profusely illustrated and carries many charts and tables which should prove useful to anyone working with seamless non-ferrous tubing.

Write for your copy on your
company letterhead.

WOLVERINE

TUBE DIVISION

CALUMET & HECLA CONSOLIDATED COPPER COMPANY

1411 CENTRAL AVENUE • DETROIT 9, MICHIGAN
In Canada: UNIFIN TUBE CO., LONDON, ONT.

BUY MORE WAR BONDS



Army Refrigeration Problems

By P. B. Reed

Manager, Refrigeration and Air Conditioning Division, Perfex Corp.

Compressor Shaft Seals (Part 4)

Fig. 8 shows a rotating bellows type seal on which the mean diameter of the bellows is the same as the diameter of the seal nose so there is no effective area. Consequently the seating effect of crankcase pressure is offset by its unseating effect, so that the only actual seating effect is the force exerted by the light spring. This holds true for all crankcase pressures whether 5 p.s.i. or 200 p.s.i.

The seal ring and bellows assembly of the seal shown in Fig. 8 are easily replaceable in the field.

The seal ring is usually gasketed to the crankcase and secured by screws or held in place by spring pressure, or it may be pressed into the crankcase, in which case a removable bearing plate is furnished so that the bearing plate holding the seal ring may be removed for replacement along with the bellows-nose assembly in case the seal leaks and must be replaced in the field.

Since both the seal ring and seal nose are separate from and not a part of the shaft or crankcase, they may be made of the most suitable materials without regard to crankcase and shaft materials. Moreover the bronze nose may be on the stationary ring on the crankcase, or on the rotating bellows.

SURFACE SPEED

One factor of considerable importance in the design of the rotating bellows type seal is the diameter of the nose, for the larger its diameter and consequently the greater its circumference, the higher is the speed at which the nose travels over the seal ring. This is sometimes referred to as the peripheral speed of the seal nose. It is desirable to keep it as low as possible in order to reduce wear and frictional heating.

Therefore it is desirable to keep the nose as close to the shaft as possible but it is also desirable to keep the mean diameter of the bellows as nearly as possible the same as the diameter of the nose, to get as nearly as practicable a balanced seal, but it is impractical to use a bellows small enough, with its mean diameter near enough to the shaft so as to be equal to the nose diameter.

So in actual practice the mean diameter of the bellows is somewhat larger than the nose diameter, resulting in this type of seal being somewhat unbalanced in favor of the seating effect of crankcase pressure.

In this respect the stationary-bellows type seal has some advantage over the rotating-bellows type for in the stationary-bellows type the nose is the nearest possible to the

center of the shaft, thus the peripheral speed can be held to the minimum.

On the other hand the unbalanced condition, if any, tends to unseat the seal nose of the stationary-bellows, while on the rotating-bellows type the unbalanced effect tends to seat the nose. However, when there is a vacuum in the crankcase the stationary-bellows type seal has the advantage for the lower the pressure in the crankcase below zero gauge (the higher the vacuum), the tighter it holds, while the reverse is true of the rotating-bellows type. Either type can be and is quite satisfactory for general use, and both types are in widespread use.

THRUST BEARING

As previously mentioned, the seating effect of the nose pressing against the shoulder of the shaft, in the case of the stationary-bellows type seal, tends to push the shaft back into the compressor and this is counteracted by putting a thrust bearing in the rear of the crankcase.

In the case of the rotating-bellows type seal, the thrust is in the opposite direction—that is, the pressure of the nose against the seal ring tends to pull the shaft out of the compressor. Therefore the thrust bearing is usually placed in the front end (seal end) of the compressor.

This thrust bearing usually takes the form shown in Fig. 8, of two washers—one of hardened and ground steel, and the other of some low-friction metal such as bearing bronze. Or, the thrust bearing may be a ball or roller type.

(Continued on Page 19, Column 3)

Fig. 8 - Balanced Bellows Seal With Replaceable Rotating Bellows and Seal Ring

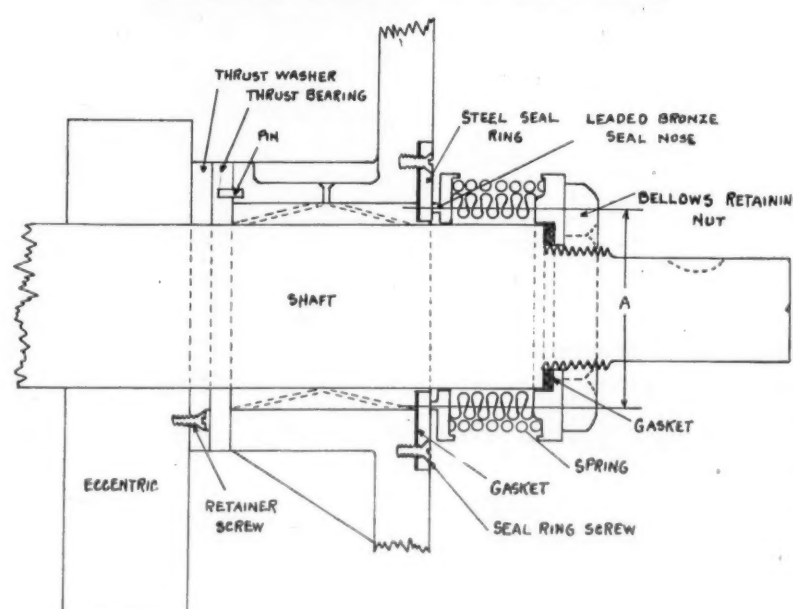
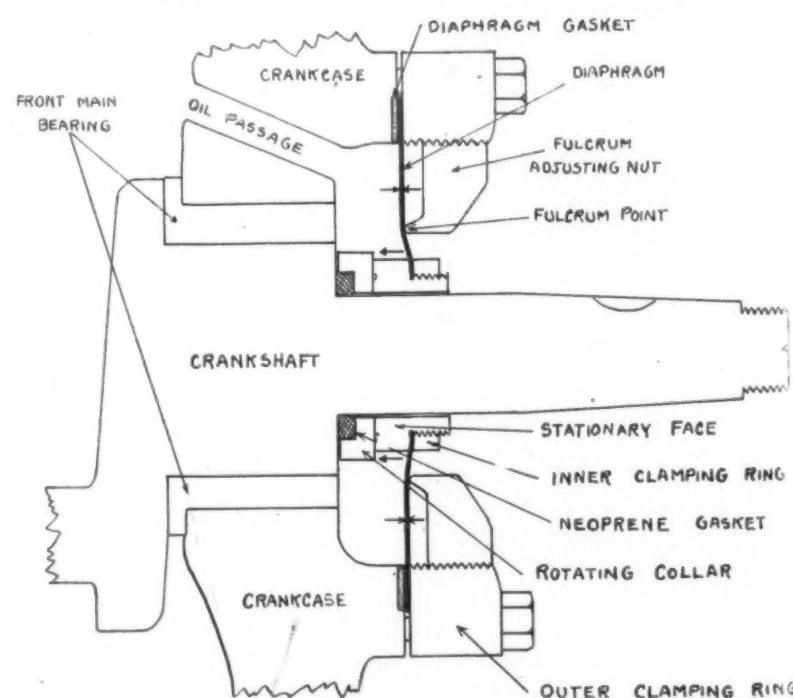
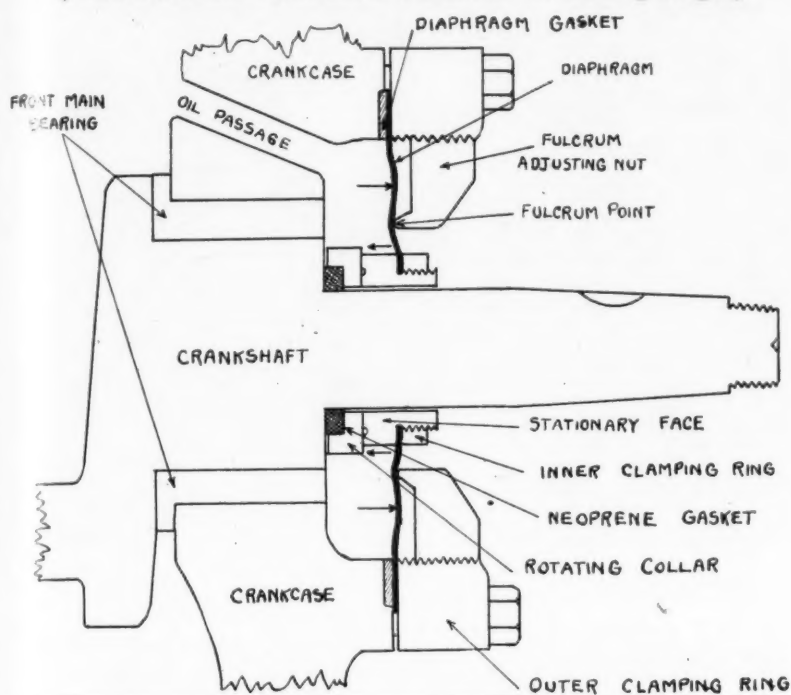


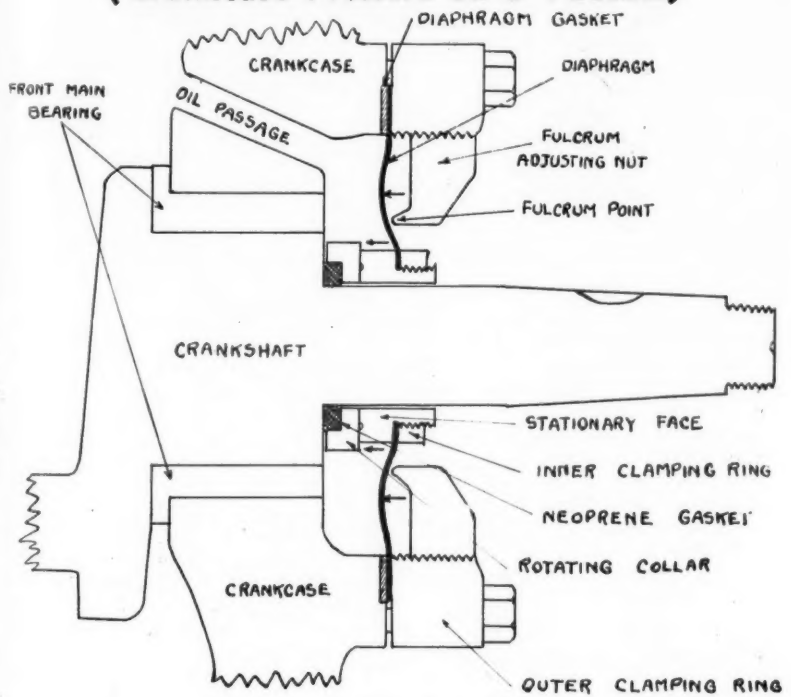
Fig. 9 - Balanced Diaphragm Seal (Crankcase pressure 0 lbs. gauge)



**Fig. 10 - Balanced Diaphragm Seal
(Crankcase Pressure Above 0 lbs. gauge)**



**Fig. 11 - Balanced Diaphragm Seal
(Crankcase Pressure on a Vacuum)**



Design and Operation Of Crankcase Seals

(Continued from Page 18, Column 5)

SELF-LUBRICATING BRONZE

The two sealing faces, the steel seal ring and the bronze nose are lapped to fit against one another almost perfectly. Actually they are "perfect" to within 5 millionths of an inch or less. Their very purpose is to prevent gas, air, or oil from passing through between them, so very little oil is able to get to these faces one of which is running on the other, and must be lubricated in some manner.

The early manufacturers found that they could increase the lubrication and put it where it was needed by soaking the somewhat porous bronze nose in hot paraffin. This soaked into the pores and later acted as a lubricant when the nose was rubbing on the steel seal ring.

This method of impregnating the bronze with paraffin worked well for sulphur dioxide but was found to be quite unsatisfactory for use with methyl chloride and the "Freons" which unlike SO₂ are miscible with oil and therefore dissolved out and carried away the paraffin from the bronze nose.

It was found that the bronze could be made as a casting into which lead is fused so that the lead can almost be said to soak into the pores of the bronze. Inspection under a strong magnifying glass shows the lead in very small particles and these act as a lubricant that is not dissolved and worked out by such refrigerants as

methyl-chloride, "Freon," butane, propane, and similar refrigerants.

If the process of fusing the lead is not properly controlled, the particles of lead may be large and, if so, they tend to "roll up" and a small "bump" forms that holds the nose away from the steel ring, and the seal leaks.

Another very ingenious type of balanced seal is shown in Figs. 9, 10, and 11 although it is not "balanced" in the same sense that the term is used above. The seating-pressure of the nose against the seal ring increases as the crankcase pressure above zero p.s.i. gauge increases, or the lower the pressure goes into a vacuum.

It uses a diaphragm instead of a bellows so there can be very little movement ("floating") of the crankshaft, and since the operation of this seal depends upon the seesaw across the fulcrum, the degree of stiffness of the diaphragm is important.

At 10 p.s.i. gauge the only pressure of the nose on the seal ring is that exerted by the "springiness" of the diaphragm and amount of bend given to it when it is installed. The amount of this tension can be regulated by moving the fulcrum point inward or outward. The amount of this tension is important and requires very accurate setting by a special precision gauge.

Fig. 9 shows the action of the seal when the crankcase pressure is zero p.s.i. gauge, which balances exactly with atmospheric pressure outside the diaphragm, and the diaphragm is deflected as shown, only enough to insure positive contact of the rotating collar on the stationary face.

In Fig. 10 the pressure in the

crankcase is above atmospheric (above zero p.s.i. gauge). Between the fulcrum point and the shaft, the pressure on the inside of the diaphragm is greater than that of atmospheric pressure acting on the outside of the diaphragm, so the tendency is to unseat the stationary nose from the rotating ring which is gasketed to the shoulder of the shaft. But, the internal pressure between the fulcrum point and the outside edge of the seal is greater than that outside the diaphragm; therefore that part of the diaphragm tends to move outward and, like a see-saw at the fulcrum point, pushes the diaphragm (inside the fulcrum point) inward.

Moreover the effective area from the fulcrum point to the outside edge of the diaphragm is greater than the effective area of the diaphragm inside the fulcrum point. So, just like a see-saw the pressure on the long end of the lever overcomes the pressure on the shorter end and the seal nose is pushed against the seal ring. The higher the crankcase pressure, the harder the nose is pressed against the seal ring.

Fig. 11 shows what happens when the crankcase pressure goes on a vacuum. The fulcrum plays no part, as the pressure on all parts of the outer side of the diaphragm is greater than on the inner side so the seal nose is pressed against the seal ring. The higher the vacuum, the stronger is the pressure of the nose on the ring.

The seal ring, nose, diaphragm, and other parts are replaceable in the field and at normal pressures the wattage and heating due to frictional effect of the nose pressing on the seal ring are low.

YES

REFRIGERATION EFFICIENCY IS YOUR BUSINESS, TOO



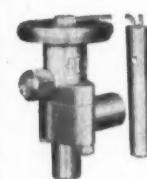
Whether you're a refrigeration service engineer, a dealer or a jobber, IT'S UP TO YOU to help make every refrigerating system operate at higher efficiency in doing its important home front job of protecting food and processing operations. That makes your business an important one. Refrigeration efficiency starts with control. An efficient refrigeration system must have efficient controls. You'll find the Alco line engineered for efficiency.

GET THIS HANDY ALCO CHECK LIST FROM YOUR ALCO JOBBER TODAY.

IT'S FREE!

Here's another handy Alco aid to refrigerating efficiency. It's a check list that helps you keep your stocks complete—saves you gas, tires and time by avoiding extra trips to your Alco jobber for items you've overlooked. Ask your Alco jobber. Alco Valve Company, 853 Kingsland, St. Louis, 5, Mo.

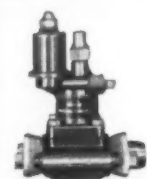
THE ALCO LINE OF ENGINEERED REFRIGERANT CONTROLS



Alco Thermo Valves. Designed for close control of refrigerant flow without "hunting." Thoroughly tested. Dependable. Available from stock for freon, methyl chloride, sulphur dioxide, ammonia; other refrigerants on special order.



Alco Solenoid Valves. Quiet in operation. Waterproof. All working parts of stainless materials to prevent rust or corrosion. Positive flow control.



Evaporator Pressure Regulators. Maintain constant evaporator pressure regardless of sudden load or suction pressure changes. Exact, rapid performance on either single or multiple systems.



Alco Float Switches. Compactly built to control refrigerant in response to changes in liquid level. Welded shell withstands maximum pressure without failure. Also available for oil or water.



Designers and Manufacturers of Thermo-static Expansion Valves; Pressure Regulating Valves; Solenoid Valves; Float Valves.

THE GAUGE THAT CAN BE KEPT
ACCURATE



No one has ever found a way to make a pressure gauge that can't be knocked out of adjustment. But Marsh has developed the next best thing—a handy, basically sound way to correct a gauge that has been thrown out of adjustment by shock or over-pressure.

When a Marsh pointer fails to return to zero, you simply turn the "Recalibrator" screw, as illustrated above, until the pointer coincides with the zero mark.

Most errors in gauges are caused by distortion of the bourdon tube, which produces an improper relation between the tube and the movement. The conventional method of merely resetting the pointer does not correct this relationship. As a result the gauge may remain incorrect at certain points on the dial.

But the "Recalibrator" actually re-establishes the relation of the tube to the movement—actually does "re-calibrate" the gauge.

The manufacturer who takes the most pains to build a gauge that is accurate would naturally be the manufacturer to provide the best means of keeping it accurate!

JAS. P. MARSH CORP., 2067 Southport Avenue, Chicago 14, Illinois
Export Department: 155 East 44th Street, New York 17, New York

MARSH

Refrigeration Instruments



PUFFER-HUBBARD

A Case of Good Refrigeration Engineering

Your inquiry is invited now. Ask us about available equipment.

Practically every type of commercial refrigeration cabinet including Refrigerated Display Cases—Beverage Coolers—Walk-in Coolers—and Reach-In Cabinets . . . each bearing the mark of a good case.

All porcelain exteriors and interiors. Equipped with patented and exclusive Grad-U-Matic Air Conditioning Systems.

PUFFER-HUBBARD MFG. CO.

** The Mark of a Good Case*
GRAND HAVEN, MICHIGAN, EST. 1898

Dole Employees Share Profits In New Plan

CHICAGO—Employees of the Dole Refrigerating Co. here who have completed one year of service with the company are eligible to share in the firm's profits under a plan announced recently at an employee meeting by E. J. Tweed, president of the company.

Some 70% of the workers are eligible for the first year. Employees now in the armed forces will be entitled to the same benefits six months after they resume their former jobs if they return to Dole within six months of the time of their discharge from the Service.

No contributions to the profit-sharing trust fund will be made by employees, but the company is to put in 25% of its net profits. Eligible employees are also given ordinary life insurance equal to 5% of the basic salary.

Nat Rhoades To Head Reader's Appliance Div.

HOUSTON, Tex.—Nat Rhoades, associated with National Manufacturers & Stores Corp. for the past 17 years, will become appliance division manager of Reader's Wholesale Distributors here Feb. 1.

While with the National firm, which operates 27 furniture stores from headquarters in Atlanta, Mr. Rhoades served as buyer and store manager in several units of the company's chain.

In addition to its extensive furniture line, Reader's also distributes refrigerators, ranges, washers, radios, and small electrical appliances. Approximately 800 retailers are served by the firm.

Frigidaire Service Chiefs Planning Strategy For 'Advanced Training'



Pictured here at a regional meeting are the men who set Frigidaire's 1945 service training program. Left to right they are: C. P. Ogden, supervisor of service field contact and parts sales; E. E. Landis, assistant service manager; R. K. Eley, supervisor of the technical service division; A. W. Lane, supervisor of the service office; and P. V. Sprout, manager of the service department.

DAYTON—Paul V. Sprout, service manager of the Frigidaire division, General Motors Corp., has announced that a new Frigidaire "Advanced Training Course" for service men is now in progress and will be completed sometime next month.

Plans for the meeting were presented to the Frigidaire district service managers at three conferences held in Memphis, Tenn., Chicago, and New York City.

During the meetings, the training program for the winter months was fully discussed. The training courses of the past were reviewed and responsibility for the carrying out of further primary training was placed directly with the distributing and dealer organizations. At the same time an advanced training course for experienced service men was presented and a schedule set up for the presentation of that course to the service men at a series of schools to be conducted between now and the end of February throughout the country.

A new portable Frigidaire "Viso-Trainer"; a small model of a former Frigidaire training device was un-

veiled and widely acclaimed by service men during the three regional conferences. The "Viso-Trainer" will be used for the demonstration of the proper method for servicing Frigidaire refrigeration equipment and also to educate the public in the principles of Frigidaire refrigeration when household equipment is available for selling.

Mr. Sprout also informed the service managers of Frigidaire's plan to award a "Certificate of Training" to all qualified service men who satisfactorily complete the advanced training course.

The training course will cover a five-day period. The first four days will be devoted to instructions in servicing refrigeration equipment, with the fifth day being devoted to the servicing of electrical ranges or to any other special subject the district selects. It was announced at the regional meetings that there will be a newly developed dealer's servicing guide available within a short time for Frigidaire dealers, and a "Plan Book" covering the coming winter service program was circulated. This book is being used by Frigidaire to promote its courses.



DON'T WORRY

If you're waiting for the Mills Compressors you have on order, don't worry. You're sure going to get them, and they'll be as good or better than ever.

MILLS INDUSTRIES, INCORPORATED

4100 Fullerton Avenue, Chicago 39, Illinois

DAVISON'S SILICA GEL PROVIDES



Extra Protection

Davison's Silica Gel has become the industry's preferred drying agent because it does more for you than ordinary drying agents...gives you protection beyond removal of moisture.

FIRST—it is processed especially for the dehydration of refrigerants.

SECOND—its scientifically-determined particle size assures you that refrigerant will not channel—will be distributed evenly throughout cartridge.

THIRD—This even distribution of the refrigerant makes it possible for it to be in complete contact with the entire

pore surface area (7,500,000 sq. in. per cu. in. of Silica Gel) at all times.

FOURTH—it removes acids and corrosive compounds . . . in addition to moisture . . . instantly.

FIFTH—its capacity for moisture is not affected by oil.

SIXTH—it will not cake nor powder.

SEVENTH—will not attack metals or alloys.

To get this COMPLETE DRYING AGENT that is effective on Freon, Methyl Chloride, Sulfur Dioxide, etc., specify Davison's Silica Gel from your jobber . . . in factory-charged dehydrators or in bulk for refill.



THE DAVISON CHEMICAL CORPORATION

Progress through Chemistry



BALTIMORE-3, MD.

Canadian exclusive sales agents for DAVISON'S SILICA GEL
CANADIAN INDUSTRIES LIMITED, General Chemicals Division

National Bureau of Standards Issues Revised Standard For Commercial Condensing Units

On June 23, 1942, at the instance of the Standard Refrigeration Compressor Association, a representative conference of manufacturers adjusted and adopted a recommended commercial standard for commercial electric refrigeration condensing units, which was subsequently revised to suit composite comment resulting from its circulation on July 8, 1942, to manufacturers, distributors, installers, contractors, and users. The adjusted draft was accepted by the trade and promulgated as Commercial Electric Refrigeration Condensing Units, Commercial Standard (Emergency) CS(E)107-43.

On June 23, 1944, a revision submitted by the Standard Refrigeration Compressor Association, and approved by the Standing Committee, was circulated for acceptance. Those concerned have since accepted and approved the revised standard as shown herein, for promulgation by the United States Department of Commerce, through the National Bureau of Standards.

The revised standard is effective for new production six months after official announcement of cessation of hostilities.

PURPOSE

1. The purpose of this commercial standard is to establish minimum standard specifications and methods of test and rating for commercial electric refrigeration condensing units (all applications) for the guidance of manufacturers, distributors, installers, contractors, and users.

SCOPE

2. This standard covers minimum requirements, rating, motor loading, and testing of air-cooled and water-cooled, belt-driven, commercial electric refrigeration condensing units, in 1/2 to 3-hp. sizes, and water-cooled units of 5 hp., using methyl chloride, "Freon-12," or SO₂ refrigerants. This standard covers all applications, including air conditioning. It covers minimum requirements for controls, receiver-tank capacities, and tube sizes for shutoff valves, as well as minimum recommended standard practice for shutoff valves. It also covers a uniform method of guaranteeing compliance with the standard and installation and service pointers. For purposes of field selection the machines are divided into three groups, as follows:

DEFINITIONS

3. **Manufacturer.**—A manufacturer, for the purpose of this commercial standard, shall be the company or organization which evidences its responsibility by all of the following:

(1) Being a prime fabricator of commercial refrigeration machines,
(2) Qualifying as such by the machining of rough compressor castings, and
(3) Affixing its name or its distributors' name and/or nationally registered trade-mark or trade name to the compressor or condensing unit.

4. **Capacity.**—The capacity of a commercial electric refrigeration condensing unit is the refrigerating effect in B.t.u. per hour produced by the change in total heat content between the liquid refrigerant leaving the condensing unit per hour and the total heat content of the vapor refrigerant entering the condensing unit per hour.

5. An electric refrigeration condensing unit is a specific refrigerating machine combination for a given refrigerant, consisting of an electric motor-driven compressor for opera-

tion at a given speed, a condenser, a liquid receiver, mounted on a suitable frame, and the regularly furnished accessories as listed in paragraph 10, table 1. A self-contained condensing unit is one designed primarily for installation within a machinery compartment of the fixture to be refrigerated. A remote condensing unit is one designed primarily for installation at a point removed from the fixture to be refrigerated.

GENERAL REQUIREMENTS

6. Safety.

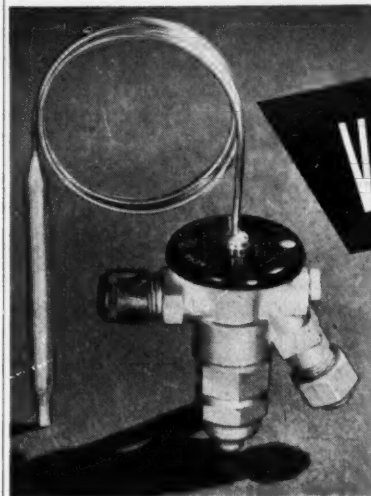
6a. The condensing unit shall meet the safety standards of Underwriters' Laboratories, Inc., Standard for Unit Refrigerating Systems, Standard for Air Conditioning and Commercial Refrigerating Equipment (both Subj. 207), December, 1941, Standard for Industrial Control Equipment, July, 1938, and subsequent revisions.

6b. Presence on the condensing unit of label or reexamination service marker of Underwriters' Laboratories, Inc., shall be accepted as evidence of compliance with this safety requirement.

7. **Radio interference.**—The unit shall cause no unreasonable amount of radio interference.

8. **Manuals.**—The manufacturer shall have available a service and

(Continued on Page 22, Column 3)



V-200 THERMAL EXPANSION VALVE

Unsurpassed
Sensitivity and
Dependability

FEATURES

Readily removed orifice cartridges eliminates necessity for stocking several sizes for low tonnage installations.

Carefully lapped hard faced ball insures positive tight shut-off.

Thoroughly field tested.

Handles freon, methyl chloride, sulphur dioxide.



Write for Catalog 52

GENERAL CONTROLS
801 ALLEN AVENUE • GLENDALE 1, CALIFORNIA
Branches: Boston • New York • Philadelphia • Detroit
Cleveland • Chicago • Dallas • Denver • San Francisco

For the Duration

CURTIS REFRIGERATING EQUIPMENT

Serves Our Armed Forces

- First!

● CURTIS Air Conditioning and Refrigeration Equipment has followed the Armed Forces of the United States on both land and sea, in addition to serving war industries at home. Some of the innumerable applications include hospital operating rooms, blood banks, food preservation, simulating high-altitude, low-temperature conditions for the Air Forces in photographic work; in the production of aircraft engines, propellers, rivets, bomb sights, gauges, medicines, parachutes, synthetic rubber, and many other uses vital to America's War Effort.

We are proud that CURTIS Equipment is serving the war effort in such a wide variety of important applications, just as it has for many years served peace-time industries. We are proud of the background which has made this possible—90 years of successful manufacturing experience, advanced engineering, precision manufacture, and the use of the finest materials throughout.

All Curtis equipment is designed and built to deliver dependable, trouble-free, economical performance.

**CURTIS REFRIGERATING
MACHINE DIVISION**
of Curtis Manufacturing Company
1912 Kienlen Ave. St. Louis, Missouri



FOR VICTORY
BUY
UNITED STATES
WAR
BONDS
AND
STAMPS



Official U. S. Navy Photo

SAFE AND DRY!

Back to their ship paddle these amphibious crews in their sturdy rubber boats. These light, capacious craft are easily maneuvered and are known for landing their loads safe and dry.

The servicemen of refrigeration have long relied upon TZ for successful trips, when measures taken must be safe and resulting conditions dry.

TZ destroys water chemically and neutralizes acid.

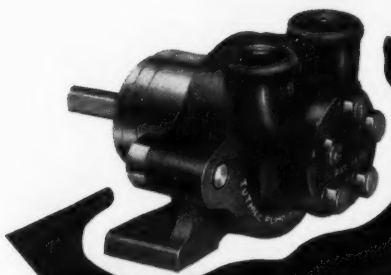
"A little goes a long way and does a big job"

THAWZONE

Patented by U. S. Patents
The PIONEER FLUID DEHYDRANT

**HIGHSIDE
CHEMICALS CO.**
195 Verona Ave.
NEWARK 4, N. J.

WHEN YOU NEED PRECISION-BUILT SMALL PUMPS . . . Specify **TUTHILL**



For Pressure Lubrication It's **MODEL L**

Just a mite in size, this internal-gear rotary pump is dynamite in action. Precision-built and mechanically sealed, it is famous for dependability in lubrication service. Available in capacities from .33 to 3 g.p.m. at pressures up to 400 p.s.i. Many mounting types. Tuthill also offers other models in greater capacities for this service. Write for complete general catalog.

**TUTHILL
PUMPS**

TUTHILL PUMP COMPANY
939 EAST 95th ST. • CHICAGO 19, ILLINOIS

Revised Standards For Commercial Machines

(Continued from Page 21, Column 3)
installation manual for his authorized dealers.

DETAIL REQUIREMENTS

9. Condenser cooling medium.—Condensing units one-fifth to 3 hp. are either air or water cooled. Five-horsepower units are water cooled only.

10. Standard equipment.—The standard equipment for commercial electric refrigeration condensing units shall be as shown in table 1.

11. Condensing units.

11a. Published figures of the temperature capacity ratings of a given condensing unit shall be in 5-degree or smaller increments and shall include the applicable ASRE standard ratings at groups I, II, III, and IV to cover at least one of the three groups, as follows:

Group
(1) Low temperature
(2) Medium temperature
(3) High temperature

11b. For rating purposes, the machines shall be rated and tested in accordance with the methods outlined in American Society of Refrigerating Engineers "Standard Methods of Rating and Testing Mechanical Condensing Units, Circular No. 14,"

using test temperatures of the nearer ASRE group for any evaporating temperature at which the test is made.

11c. Additional ratings at other ambients may be listed if so desired.

12. Motors.

12a. For the purpose of determining maximum motor horsepower, no condensing unit of 5 hp. or less shall require more than the horsepower shown in table 2, when tested for performance at rated voltage and at the conditions of test specified in paragraph 12b(5).

12b. Conditions for determining maximum motor load.

(1) Water-inlet temperature of water-cooled units 75° F.

(2) Water-outlet temperature of water-cooled units 95° F.

(3) Suction gas (refrigerant vapor entering the compressor) superheated to 65° F.

(4) An ambient temperature of 110° F. for both self-contained type and remote-type units, air and water cooled.

Ranges of Evaporating Temperatures (saturated-vapor temperatures corresponding to pressures measured at inlet to the compressor)

Minus 25° F. to 0° F.
0° F. to plus 25° F.
Plus 25° F. to plus 45° F.

(5) Evaporating temperature (saturated-vapor temperature corresponding to pressure measured at inlet to the compressor) in each group shall be as follows:

- (a) Low temperature, plus 5° F.
 - (b) Medium temperature, plus 30° F.
 - (c) High temperature, plus 50° F.
- 12c. The manufacturer's maximum motor test loading for each size of unit shall be as shown in table 2.

Table 2—Peak Test Loading For All Single-Phase Motors and for Polyphase* 1½ Hp. And Larger

Motor Nameplate Hp. Rating	Brake Hp. at Motor Shaft (Peak Test Load, As Determined from Paragraphs 11a and 11b)
1/8	0.375
1/4	.43
3/8	.56
1/2	.80
3/4	1.17
1	1.5
1½	2.25
2	3.00
3	4.5
5	7.0

*Due to their low starting torque, polyphase motors of less than 1½ hp. are usually one size larger than shown in table 2 for a given peak test load.

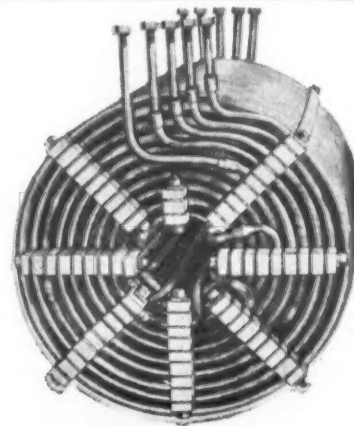
(Continued on Page 23, Column 1)

Table 1—Standard Equipment as Furnished by the Manufacturer for Commercial Electric Refrigeration Condensing Units, Belt-Driven

Horsepower	Air Cooled		Water Cooled	
	1/8, 1/4, 3/8, 1/2, 1	1½, 2, 3	3/8, 1/2, 3/4, 1	1½, 2, 3, 5
Compressor with flywheel	Yes	Yes	Yes	Yes
Condenser	Yes	Yes	Yes	Yes
Receiver (may be combined with condenser) except where application does not require receiver	Yes	Yes	Yes	Yes
Motor	Yes	Yes	Yes	Yes
Motor starter ¹				
single-phase	No	Yes	No	Yes
3-phase	Yes	Yes	Yes	Yes
Thermal overload protection other than fuses	Yes	Yes	Yes	Yes
High pressure cut-out	No	Yes	Yes	Yes
Refrigerant charge, as shipped, lb.	1, 1, 1, 2, 3, 5	5	2, 3, 3, 5	5
Belt guard, remote type only	Yes	Yes	Yes	Yes
Oil charge	Yes	Yes	Yes	Yes
Low pressure or temperature control, remote type only	Yes	Yes	Yes	Yes
Service valves	Yes	Yes	Yes	Yes
Suction strainer	Yes	Yes	Yes	Yes
Fusible element or relief valve	Yes	Yes	Yes	Yes
Water-regulating valve			Yes	Yes
Belt or belts	Yes	Yes	Yes	Yes
Condenser fan	Yes	Yes		
Base	Yes	Yes	Yes	Yes
Liquid shutoff valve	Yes	Yes	Yes	Yes
Wiring between temperature or pressure control and motor ²	Yes	Yes	Yes	Yes
Name plate	Yes	Yes	Yes	Yes

¹ Across-the-line starters must be supplied where the temperature or pressure control is not capable of starting and stopping the motor directly. Suitable motors and starters for other types of current should be furnished by the manufacturer. ² Where separate motor starter is supplied, wiring between temperature or pressure control and motor is not required to be furnished by the manufacturer.

INTO THIS COIL WE BENT half a mile of COPPER TUBING



Here's a job typical of Swan's skill in precision pipe and tube bending. A certain naval condenser unit takes a lot of copper tubing—two tons of it! *Half a mile of it!* To be bent into a coil no bigger than a small clothes closet. Thermal requirements for maximum efficiency of the unit make necessary the placement of the coil surfaces with great precision in all three dimensions.

Swan Engineering did it! And in quantity! And on time!

Use our advisory engineering service in connection with your bending problems. Swan Engineering will quote promptly on bending jobs large or small, simple or complicated, in any of the usual metals or alloys including stainless steel and aluminum. Send your bending to Swan!

SWAN ENGINEERING COMPANY, Inc.
748 Frelinghuysen Ave. Newark 5, N. J.



Anaconda Copper Tubes are easier to handle. The special Cup Seal[®] assures unflattened tube ends that can be fed through smaller openings without danger of fouling inside surfaces. This method of sealing also keeps the interiors of the tubes clean, bright and dry. Before sealing, tubes are thoroughly dehydrated.

Anaconda Refrigeration Tubes are 99.9% pure copper, specially deoxidized to increase

their corrosion resistance. They are manufactured according to A. S. T. M. specifications B68-43. Uniformly soft, they bend easily, and can be flared without cracking.

Anaconda Copper Refrigeration Tubes are available in all standard sizes up to and including ¾" O.D. They are stocked by jobbers in 25, 50 and 100-foot coils. Longer lengths on special order.

*Pat. App. For



Anaconda Refrigeration Tubes

FRENCH SMALL TUBE BRANCH—THE AMERICAN BRASS COMPANY
Subsidiary of Anaconda Copper Mining Company—P. O. Box 1031, Waterbury 90, Connecticut
In Canada: ANACONDA AMERICAN BRASS LTD., New Toronto, Ont.

WAR BONDS...BUY ALL YOU CAN KEEP ALL YOU BUY!

New Standards Give Instructions on Putting Unit Into Operation

(Continued from Page 22, Column 5)

11d. Motors used on commercial electric refrigeration condensing units shall conform to the standards of the National Electrical Manufacturers Association as given in part on page 7.

11e. Other motor requirements shall be in accordance with NEMA Motor Standards.

11. Controls.

11a. Each condensing unit shall be equipped with controls, as specified in table 1.

11b. Receiver tanks.—The minimum volume for receiver tanks shall be as given in table 3.

Table 3—Minimum Receiver-Tank Volume

Hp.	Self-Contained Type Units	
	Remote-Type Units	Type Units
	Cu. in.	Cu. in.
1/4	55	55
1/2	55	55
3/4	75	75
1	100	100
1 1/2	250	...
2	325	...
3	450	...
4	550	...
5	700	...
6	1,000	...

15. Shutoff valves.

15a. Tube size. The tube sizes of shutoff valves shall be not less than those shown in table 4.

15b. Standard practice. Minimum recommended standard practice for shutoff valves is shown in tables 5, 6, 7, 8, and 9. Minimum required tube sizes for these valves (see paragraph 15a) are repeated in these tables for convenient reference.

(Continued on Page 24, Column 1)

Table 4—Minimum Required Tube Sizes, OD, For Shutoff Valves

Hp.	Type of Unit	Liquid In.	Suction In.	Discharge ¹ In.	Receiver ¹	
					Water Cooled	Air Cooled
1/4	{Self-contained	1/4	1/4	1/4	1/4	1/4
1/4	{Remote	1/4	1/4	1/4	1/4	1/4
1/2	{Self-contained	1/4	1/4	1/4	1/4	1/4
1/2	{Remote	1/4	1/4	1/4	1/4	1/4
3/4	{Self-contained	1/4	1/4	1/4	1/4	1/4
3/4	{Remote	1/4	1/4	1/4	1/4	1/4
1	{Self-contained	1/4	1/4	1/4	1/4	1/4
1	{Remote	1/4	1/4	1/4	1/4	1/4
1 1/2	{Self-contained	1/4	1/4	1/4	1/4	1/4
1 1/2	{Remote	1/4	1/4	1/4	1/4	1/4
2	{Self-contained	1/4	1/4	1/4	1/4	1/4
2	{Remote	1/4	1/4	1/4	1/4	1/4
3	{Self-contained	1/4	1/4	1/4	1/4	1/4
3	{Remote	1/4	1/4	1/4	1/4	1/4
5	{Self-contained	1/4	1/4	1/4	1/4	1/4
5	{Remote	1/4	1/4	1/4	1/4	1/4

¹ Where two valves are furnished, they shall be standard valves of equivalent or greater outlet-tube area than specified.

Check List

	Instructions
Location	Place condensing unit where it has a free circulation of air. If a water cooled unit, do not install where it will be subjected to freezing temperatures.
Motor lubrication	Lubricate motor bearings before starting this unit. Use only lubricant of the grade recommended by the motor manufacturer.
Electrical specifications	Check name plate on motor and controls to be certain that motor is being connected to circuit supplying the correct current.
Line protection	Use line fuses of proper rating. (See National Electrical Safety Code.)
Pulley alinement	Make certain that pulleys are in alinement and that belt is adjusted to proper tension.
Compressor rotation	Check direction of rotation of compressor as indicated by arrow on unit.
Cleaning evaporator lines	Be sure evaporator and lines are dry and clean. If they have stood open, blow out and dry.
Strainer	The use of a liquid line strainer for protection of the system is recommended.
Drying evaporator lines	Use only suction or liquid line dryers to remove moisture. Use dryers which have been recommended by the condensing unit manufacturer.
Remove moisture-laden air	Draw a deep no-bubble vacuum on the low side of the refrigeration system before charging with refrigerant, using a vacuum pump designed for that purpose.
Compressor lubrication	Check the compressor oil level after condensing unit has operated a few hours, and add oil as required to make up for that in the lines and evaporator. Use only clean, dry oil in sealed containers approved by the manufacturer of this condensing unit.
Leak test	Test all joints carefully for leaks. Make certain that the entire system is gas tight.
Expansion-valve adjustment ...	Check adjustment of expansion valve and reset if necessary to keep liquid refrigerant from returning to the compressor. Be sure to use the proper size valve.
Refrigerant requirements	Use only refrigerant specified on unit name plate, that is clean and dry.
Installation re-check	Before leaving the installation as complete, recheck temperature, valve settings, and general operation, always using gages. See that service-valve caps, control covers, and other loose parts are in place. Also re-check pressures, compressor oil level, and the motor oil.
User instructions	Instruct the customer or user in the care and operation of this unit—how to oil motor, and replace fuses, or reset overload. Leave your name, address, and telephone numbers, day and night, posted near the unit.

Table 5—Liquid Shutoff Valves*

Hp.	Type Unit	Type	Receiver Connection ²	Tube Size OD	Tube Connection	Single or Back Seat	Stem End
1/4	{Self-contained ³	Angle or Straight (welded, brazed, soldered, or forged)	Male Pipe thread, 1/4 in.	1/4	SAE flare or compression	Single seat	1/4 in. sq.
1/4	{Remote ³	— do —	— do —	1/4	— do —	— do —	— do —
1/4	{Self-contained ³	— do —	— do —	1/4	— do —	— do —	— do —
1/4	{Remote ³	— do —	— do —	1/4	— do —	— do —	— do —
1/4	{Self-contained ³	— do —	— do —	1/4	— do —	— do —	— do —
1/4	{Remote ³	— do —	— do —	1/4	— do —	— do —	— do —
1/4	{Self-contained ³	— do —	— do —	1/4	— do —	— do —	— do —
1/4	{Remote ³	— do —	— do —	1/4	— do —	— do —	— do —
1	— do —	— do —	Male Pipe thread, 1/2 in.	1/2	— do —	— do —	— do —
1 1/2	— do —	— do —	— do —	1/2	SAE flare, compression or soldered	— do —	— do —
2	— do —	— do —	— do —	1/2	— do —	— do —	— do —
3	— do —	— do —	— do —	1/2	— do —	— do —	— do —
5	— do —	— do —	Male Pipe thread, 1/2 in.	1/2	— do —	— do —	— do —

* The manufacturer is at liberty to use standard compressor shutoff valves for liquid shutoff valves where desired. ² Receiver connection applies only to pipe-thread valve connection at receiver. ³ Or combination liquid receiver-liquid line shutoff valve with 1/4-in. or 3/8-in. SAE male inlet from condenser to receiver and 1/4-in. SAE male liquid outlet line connection 1/4-in. OD dip tube. Dip tube OD same as liquid line OD.

Table 6—Suction Shutoff Valves

Hp.	Type Unit	Type	Bolts			Tube Size OD	Tube Connection	Single or Back Seat	Gauge Outlet	Stem End
			No. of	Size	Hole Centers					
1/4	{Self-contained	Flange	2	1/16	1 1/2	1/4	SAE flare, compression, or soldered	Back seat	1/4 in. female pipe thread	1/4 in. sq.
1/4	{Remote	do	2	5/16	1 1/2	1/4	do	do	do	do
1/4	{Self-contained	do	2	5/16	1 1/2	1/4	do	do	do	do
1/4	{Remote	do	2	5/16	1 1/2	1/4	do	do	do	do
1/2	{Self-contained	do	2	5/16	1 1/2	1/2	do	do	do	do
1/2	{Remote	do	2	5/16	1 1/2	1/2	do	do	do	do
1/2	{Self-contained	do	2	5/16	1 1/2	1/2	do	do	do	do
1/2	{Remote	do	2	5/16	1 1/2	1/2	do	do	do	do
1	{Self-contained	do	2	5/16	1 1/2	1/2	do	do	do	do
1	{Remote	do	2	5/16	1 1/2	1/2	do	do	do	do
1 1/2	do	do	2	5/16	1 1/2	1/2	Soldered	do	do	5/16 in. sq.
2	do	do	2	5/16	1 1/2	1/2	do	do	do	do
3	do	do	2	1/2	2 1/4	1 1/2	do	do	do	3/8 in. sq.
5	do	do	4	1/2	2 1/4	1 1/2	do	do	do	1/2 in. sq.

MUELLER BRASS CO. LIQUID INDICATORS WILL NOT LEAK



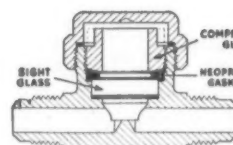
DOUBLE PORT LIQUID INDICATOR



WITH SEAL CAP

The improved design of our liquid indicators is effective assurance against refrigerant leakage around the sight glass. The sight glass is sealed into the forged brass body by a heavy Neoprene gasket which, in turn, is compressed by a packing gland, which forces the pliable gasket along the sides of the glass and produces a perfect seal.

Mueller Brass Co. Liquid Indicators are made in a complete range of styles and sizes. The



seal cap and open port type may be installed where light conditions are favorable. Where the light is poor, we recommend the use of our double port liquid indicators illustrated here. By flashing a light through one port, the exact condition of the refrigerant may be determined through the other port. The new design of the compression gland permits the use of standard wrenches for tightening.

NOTE: All models of Mueller Brass Co. filters and line strainers may be obtained with female flare connections on one end. This makes it possible to assemble any desired filter to a liquid indicator for installation in the liquid line of the system.

MUELLER BRASS CO.

PORT HURON, MICHIGAN

Electromatic

AUTOMATIC CONTROL VALVES AND REGULATORS

2100 INDIANA AVENUE - CHICAGO 16, ILL.

Revised Standards For Commercial Machines

(Continued from Page 23, Column 2)

16. Nema standards (condensed).
16a. Motors used on commercial electric refrigeration condensing units shall be of the general purpose type and shall comply in every respect with National Electrical Manufacturers Association motor and Generator Standards (publication No. 41-64 and superseding issues) as follows:

Small power motors direct current, MG8-30 to MG8-72 inc.
Small power motors alternating current, MG8-80 to MG8-132 inc.
Large power motors direct current, MG9-10 to MG9-115 inc.
Large power motors single phase, MG9-310 to MG9-414 inc.
Large power motors polyphase induction, MG9-510 to MG9-619 inc.
16b. The following extracts taken from NEMA Motor and Generator Standards, publication 41-64, for alternating current

motors are given as an indication of the more pertinent items to be considered in determining whether or not a given motor as applied meets the requirements:

PERFORMANCE STANDARDS

16b(1) **MG8-100 temperature rise.** The temperature rise of each of the various parts, above the temperature of the cooling medium, shall not exceed the values given in the following table:

Class of insulation 0 a
Load, percent of rated capacity 100 100
Time rating Continuous

Temperature rise:
1. Coil windings, cores and mechanical parts in contact with or adjacent to insulation.

(a) General-purpose motors 40 c
(b) Totally-enclosed and totally-enclosed fan-cooled motors 55 c
(c) Motors and generators other than (a) and (b) 35 c 50 c
2. Commutators and collector rings.

Table 7—Discharge Shutoff Valves*

Hp.	Type Unit	Type	Bolts			Tube Size OD	Tube Connection	Single or Back Seat	Gauge Outlet	Stem End
			No. of	Size	Hole Centers					
1/8	Self-contained	Flange	2	in. 5/16	1 1/4	in. 3/8	SAE flare compression, or soldered	Back seat	1/8 in. Female pipe thread	1/8 in. sq.
1/4	Remote	do	2	5/16	1 1/4	3/8	do	do	do	do
1/4	Self-contained	do	2	5/16	1 1/4	3/8	do	do	do	do
1/4	Remote	do	2	5/16	1 1/4	3/8	do	do	do	do
1/2	Self-contained	do	2	5/16	1 1/4	3/8	do	do	do	do
1/2	Remote	do	2	5/16	1 1/4	3/8	do	do	do	do
1/2	Self-contained	do	2	5/16	1 1/4	3/8	do	do	do	do
1/2	Remote	do	2	5/16	1 1/4	3/8	do	do	do	do
3/4	Remote	do	2	5/16	1 1/4	3/8	do	do	do	do
1	do	do	2	5/16	1 1/4	3/8	do	do	do	do
1 1/2	do	do	2	5/16	1 1/4	3/8	do	do	do	do
2	do	do	2	5/16	1 1/4	3/8	Soldered	do	do	5/16 in. sq.
3	do	do	2	5/16	1 1/4	3/8	do	do	do	do
5	do	do	2	1/2	2 1/4	3/4	do	do	do	3/4 in. sq.

* Where two discharge valves are furnished, they shall be standard valves having equivalent or greater outlet-tube area than specified.

Table 8—Receiver Shutoff Valves*
(Water-Cooled Condensing Units)

Hp.	Type Unit	Type	Receiver Connection ²	Tube Size OD	Tube Connection	Single or Back Seat	Stem End
1/8	Remote	Angle (welded, brazed, soldered, or forged)	Weld or 3/8 in. MPT ³	in. 1/4	SAE flare or compression	Single seat	1/8 in. sq.
1/4	do	do	do	1/2	do	do	do
1/4	do	do	do	1/2	do	do	do
1	do	do	1/2 in. MPT ³	5/8	SAE flare, compression, or soldered	do	do
1 1/2	do	do	do	5/8	do	do	do
2	do	do	3/4 in. MPT ³	3/4	Soldered	do	5/16 in. sq.
3	do	do	do	3/4	do	do	do
5	do	Flange	2 in. bolt center 2 1/2 in. bolt center	3/4	do	Back seat	3/4 in. sq.

* The manufacturer is at liberty to use standard compressor shutoff valves for receiver shutoff valves where desired. If two receiver valves are furnished, they shall be standard valves of equivalent or greater outlet tube area than specified. ² Receiver connection applies only to pipe thread valve connection. ³ Male pipe thread.

- (a) General-purpose motors 55 c
(b) Totally-enclosed and totally-enclosed fan-cooled motors 65 c
(c) Motors and generators other than (a) and (b) 50 c 65 c

3. Miscellaneous parts (such as brush holders, brushes, pole tips, etc.) other than those whose temperatures affect the temperature of the insulating material may attain such temperatures as will not be injurious in any other respect.

4. Squirrel-cage windings may attain such temperatures as will not occasion mechanical injury to the machine.

Note I—No overload temperature guarantee given.

Note II—See MG4-10 for descriptive specification covering Class A and Class O insulation.

Note III—All temperature measurements by thermometer method.

Note IV—All temperature rises are based on an ambient temperature of 40 c. General guarantees do not apply and deterioration of insulation may be expected, if this ambient temperature is exceeded in regular operation.

Note V—See MG4-11 for descriptive specification of temperature rating.

Note VI—See MG3-25.

Note VII—The Underwriters' Laboratories, Inc., approves certain motor-driven

appliances under a definite duty cycle and under such conditions permits the motor to have a 65 c temperature rise in a 24 c ambient.

Adopted standard (Maximum Limit) 2-19-1942.

16b(2) **MG8-101 Minimum efficiencies.**

The efficiency, power factor and apparent efficiency of the following ratings shall not be less than the values given below at rated voltage, frequency and load.

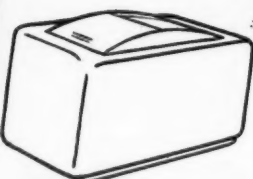
Note—the power factor and efficiency must be not less than the values shown and such that the product is not less than the values given for apparent efficiency.

(Concluded on Page 25, Column 1)

RATING H.P.	EFFICIENCY PERCENT				POWER FACTOR PERCENT				APPARENT EFFICIENCY PERCENT			
	3,600	1,800	1,200	900	3,600	1,800	1,200	900	3,600	1,800	1,200	900
1/8	45	53	45	38	57	52	43	36	28	30	21	15
1/4	49	58	49	42	62	56	46	38	34	36	25	18
1/2	53	61	53	45	66	59	49	40	39	41	29	20
3/4	54	63	54	46	67	61	50	41	41	44	31	22
1	55	65	55	47	69	63	52	43	44	47	33	23
1 1/2	57	67	57	49	72	65	53	44	46	49	34	24

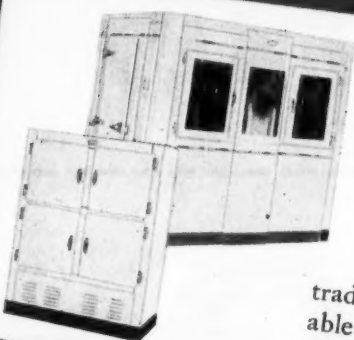


WHEN THE LIGHT CHANGES WILL YOU BE *ready?*



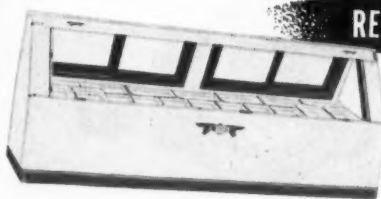
BE READY—WITH SHERER FREEZERS

Juicy steaks, garden-fresh vegetables, fish, wild game and ice cream will be frozen in Sherer Freezers by thousands of Americans on farms, in stores and rural homes the country over. These freezers, available when restrictions are removed. Many models, such as self-serve vegetable and dairy cases, reach-in refrigerators and walk-in cooling rooms, as well as the Sherer distribution franchise, are available now! Write or wire for full details.



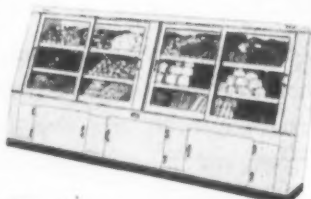
AVAILABLE NOW!

Sherer reach-in refrigerators and walk-in cooling rooms have always been highly regarded by the trade, and extremely profitable for Sherer distributors.



REFRIGERATOR DISPLAY CASES

As a pioneer manufacturer of fine commercial refrigeration, Sherer will offer meat, delicatessen and dairy display cases ranking with the finest, at prices that will bring you profits and volume.



SELF-SERVE VEGETAIRE

Built for generous display and storage, the famous Sherer Vegetaire has for many years been a byword with food merchants as a "builder-upper" of extra fruit and vegetable sales and profits. You will find that Vegetaire sells in volume at a substantial profit to you.



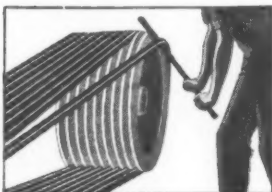
Besides this complete line, Sherer's refrigeration accessory department offers you condensing units, fin and blower type coils, valves, controls and other supplies.

SHERER-GILLETT CO.
MARSHALL, MICHIGAN

How to Lengthen V-Belt Life—

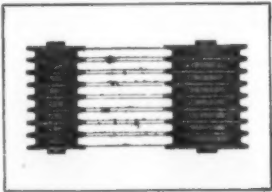
ON ALL REFRIGERATION AND AIR-CONDITIONING SYSTEMS

You never need to "baby" your tough, firm-gripping Dayton V-Belts, but if you will give them just reasonable care you can add months and years to their remarkably long lives. With the vast increase in the use of Dayton V-Belt Drives for compressors and fans in commercial, industrial and military service, proper maintenance becomes more than ever a patriotic duty. Here are 9 helpful hints:

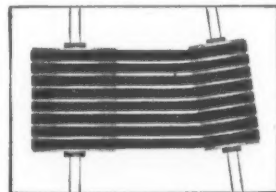


1. When installing, don't pry V-Belts over pulley grooves—instead, slide motor forward and drop belts over the pulleys. Then move motor back until the proper tension is obtained.

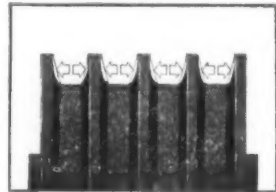
2. When the proper tension is reached, belts have "live springy vibration." When too much slack exists, belts feel dead when struck by hand.



3. Check and line up pulleys, groove for groove, and in parallel. Misalignment wears both belts and pulley grooves excessively.



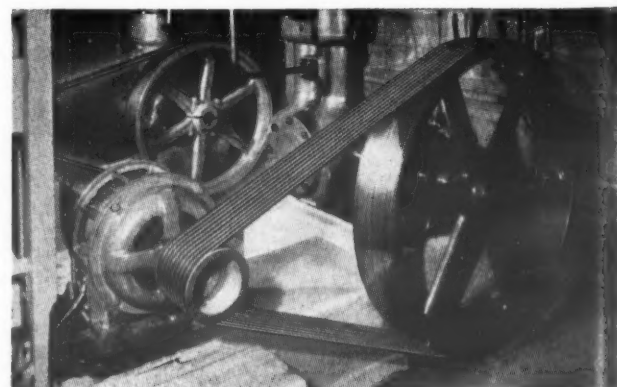
4. Check both shafts for parallel alignment so each belt can pull its share of the load.



5. Check and replace worn pulleys—they wear out belts prematurely.

6. Don't replace a part of a set of V-Belts with new belts as the new belts will hog the load and wear out quickly. Instead, replace the whole set and conserve any good belts from the old set for spares.

7. Don't let oil leak on V-Belts. Where an oily condition prevails, use the Dayton Oil-proof V-Belt.



8. Don't hang V-Belts on nails, hooks or across boards or other objects which might cause them to bend sharply.

9. Belts not in use should be stored in a cool, dry place away from direct sunlight and

high temperatures.

You are invited to call on your nearest Dayton Distributor for helpful suggestions or service. He will gladly help you with your V-Belt problems.

THE DAYTON RUBBER MFG. CO., DAYTON 1, OHIO
Co-Operators of a Government Synthetic Rubber Plant
DAYTON RUBBER EXPORT CORPORATION
38 Pearl Street, New York, N. Y., U. S. A. Cable Address: WIDBLOC

V-Belts by

WRITE FOR FREE WALL CHART

Dayton Rubber

The Mark of Technical Excellence in Synthetic Rubber

Production Tests Outlined In New Machine Standard

(Concluded from Page 24, Column 5)

17. Production tests on units.

17a. Each unit shall be manufactured so that—

(1) Proper alignment between motor and compressor flywheel is obtained.

(2) All major components are interchangeable with like components on like models.

(3) Complete condensing unit is dehydrated.

(4) The motor load shall not exceed the requirements herein.

(5) The refrigerating capacity of the condensing unit shall conform to the limits of the group for which designed.

(6) Controls and shutoff valves function properly.

17b. Each assembled unit shall be bench-tested and adjusted for a suitable period of time to reveal and eliminate—

(1) Oil leaks.

(2) Refrigerant leaks.

(3) Electrical defects.

(4) Excessive mechanical noise and vibration.

(5) Other defects.

LABELING

18. The name of the manufacturer or distributor, model number, refrigerant used, and serial number shall be shown in a conspicuous place on each unit.

19. **Warranty**—The condensing unit shall be warranted by the condensing unit manufacturer against defects of material and workmanship for a period of 90 days from date of installation.

20. **Guarantee of compliance**—In order that purchasers of condensing units may be assured that these units comply with the requirements of this standard as a basis for fair competition, it is recommended that the following statement be included in manufacturers' and/or distributors' warranties, labels, invoices, contracts, sales literature, etc.:

This refrigeration condensing unit complies with all requirements of Commercial Standard CS107-45, as issued by the National Bureau of Standards, of the United States Department of Commerce.

INSTALLATION AND SERVICE INSTRUCTIONS

21. It is recommended that a copy of the following "Installation and Service Instructions" be furnished with each refrigeration condensing unit, and included in each installation and service manual.

Be sure to study these important pointers.

IMPORTANT—This unit is constructed of high-grade materials, built by modern precision methods, every part carefully gaged and inspected, and the entire unit tested. When it left the factory, it was free of foreign matter and thoroughly dehydrated. Careless or thoughtless installation methods may nullify all the care, expense, and planning that went into the building of this unit. A careful and efficient installation will enable it to give the years of satisfactory use for which it was designed. IT IS NOW UP TO YOU, THE INSTALLER.

EFFECTIVE DATE

22. The standard is effective for new production six months after official announcement of cessation of hostilities.

Table 9—Receiver Shutoff Valves*
(Air-Cooled Condensing Units)

Hp.	Type Unit	Type	Receiver Connection	Tube Size OD	Tube Connection	Single or Back Seat	Stem End
1/4	Self-contained ²	Angle (welded, brazed, soldered, or forged)	1/4 in. male pipe thread	1/4 in.	SAE flare or compression	Single seat	1/4 in. sq.
1/4	Remote ²	do	do	1/4	do	do	do
1/4	Self-contained ²	do	do	1/4	do	do	do
1/4	Remote ²	do	do	1/4	do	do	do
1/2	Self-contained ²	do	do	1/4	do	do	do
1/2	Remote ²	do	do	1/4	do	do	do
3/4	Remote	do	3/8 in. male pipe thread	3/8	do	do	do
1	do	do	do	3/8	do	do	do
1 1/2	do	do	do	3/8	do	do	do
2	do	do	do	1/2	do	do	do
3	do	do	1/2 in. male pipe thread	1/2	SAE flare, compression, or soldered	do	do

* The manufacturer is at liberty to use standard compressor shutoff valves for receiver shutoff valves where desired. If two receiver valves are furnished, they shall be standard valves of equivalent or greater outlet-tube area than specified. When a combination liquid receiver-liquid line shutoff valve is used as shown in footnote 3 of Table 5 or a standard liquid line shutoff valve is used, this receiver shutoff valve is not required.



If, in winter weather, the location of a milk cooler temperature control switch is at a point where the temperature is much colder than that desired in the cooler, serious problems may result if ordinary controls are used . . . but NOT for the user of the Ranco 0-1414.

The Ranco 0-1414 may be subjected to extremely cold winter temperatures and function perfectly.

Specify Ranco 0-1414 for trouble-free milk cooler temperature control.

WORK WITH YOUR RANCO JOBBER

Ranco Inc. COLUMBUS 1, OHIO

Your refrigeration parts and supply house in Central New York and Northern Pennsylvania

TED GLOU
CENTRAL SERVICE SUPPLY CO.

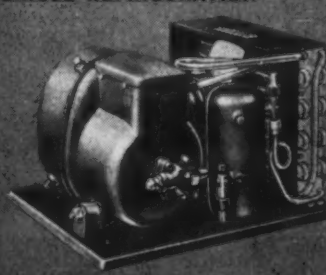
516-18-20 Erie Blvd. E., Syracuse, N. Y. Phone 5-4000
209 Jefferson Ave., Scranton, Pa. Phone 3-4000



"You're treated right when you
Sell Servel"

"Servel's new 'Supermetic' condensing units will serve dealers and fixture manufacturers in every vital field

1. STORE FIXTURES
2. MILK COOLERS
3. HOME LOCKERS
4. BEVERAGE COOLERS
5. VENDING MACHINES
6. ROOM COOLERS
7. FARM FREEZERS
8. WATER COOLERS
9. INDUSTRIAL COOLING
10. VEHICLE REFRIGERATION



"Sure I like the way Servel does business—always have. And other dealers and distributors of Servel Condensing Units feel the same way. They've found, like I have, that Servel is not only prompt, reliable, and fair, but that it's a friendly outfit, too. They actually seem to enjoy helping you work out a tough application or solve a difficult sales problem.

"But that's not all. Customers are easier to talk to when you sell Servel. They're more receptive. They know the Servel name, know it stands for twenty years of dependability and performance in the condensing unit field. And since there's a Servel unit for almost every job, sales go faster, easier.

"Fact is, I'm expecting sales to zoom after the war. There's going to be a lot of demand in the frozen foods field for those new hermetically sealed Supermetic units Servel's bringing out."

The remarks above are typical of many made by Servel dealers and distributors. If you'd like to find out more about their reasons for making them—and about the opportunities for a Servel franchise in your territory—write today.

FREE: For information about Servel condensing units, and for an authoritative discussion of one of the most promising of post-war markets, send for your free copy of "A Study of the Farm and Home Freezer Market After the War." Address Servel, Inc., Dept. RN, Evansville 20, Ind.



SERVEL, Inc.—Electric Refrigeration Division, Evansville 20, Indiana



NIBCO WROT Fittings for Refrigeration

NIBCO WROT Fittings are formed in one step from straight copper tubing. They are strong, light in weight and dense in structure . . . impervious to gases. Because every fitting is perfectly formed and absolutely "round and square," they are easier to use in production. Laboratory Control and individual plug testing assure close tolerances. You can eliminate service troubles by using vibration-proof and corrosion-proof NIBCO WROT Fittings. Write for complete catalog.

NORTHERN INDIANA BRASS CO.
ELKHART, INDIANA
VALVES AND FITTINGS SINCE 1904

AEROQUIP ANNOUNCES: REFRIGERATION SERVICE CHARGING LINE



BUY MORE WAR BONDS

Building Freezers is Nothing New to



Amana's experience in LOW TEMPERATURE FOOD FREEZING dates back many years. As leading builders of frozen food Locker Plants, Amana was early selected by the Armed Services to design low temperature Portable Freezers to provide frozen foods to our fighting men. With this background, plus modern designing and large manufacturing facilities, you will find Amana a dependable source for your Home Freezer needs.

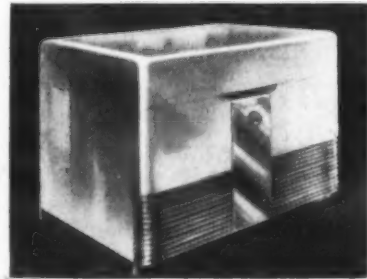


• AMANA
5 CUBIC FOOT
LOW PRICED
QUALITY
HOME FREEZER
•

HOME FREEZER UNITS TO MEET ALL NEEDS

The two Amana Home Freezers shown here have features that provide convenience with efficient refrigeration. Top openings give easy access to frozen foods. Beauty of design... no sharp corners... easy to keep looking like new. Extra large storage capacity. No waste space. No inaccessible areas.

9 cu. ft. size



GET INFORMATION NOW

By phone, mail and letter, we are getting a flood of inquiries on Amana Home Freezers. Distributors are being selected for key territories. A rare opportunity is open for you with this line.

AMANA SOCIETY, AMANA, IOWA

How Much Can Home Freezers Do In Freezing & Refreezing of Food?

Dr. Tressler Discusses Problems of Sizes, Capacities, Power Failure, and Refreezing

NEW YORK CITY—An early rush to buy the smaller of the 4 and 6-cu. ft. variety, with a later trend to larger models paralleling the experience of the household refrigerator field, is the probable immediate postwar prospect for the home freezer industry, in the opinion of Dr. Donald K. Tressler, manager, General Electric Consumers Institute.

Dr. Tressler, considered one of the foremost authorities in the frozen foods field, expressed these opinions in his talk "Home Freezers—Present and Future" before the recent annual meeting of the American Society of Refrigerating Engineers.

What type of freezer and size will be the most popular? Dr. Tressler admits that will be a hard question to answer.

"The chest type has the disadvantage of inaccessibility of a large proportion of the food," he said. "No one has yet found a way to arrange the top opening chest type of freezer so that all of the products stored therein are readily available."

4 Ft. Size 'Inadequate'

"Some persons are confident that the great demand will be for 4 and 6-cu. ft. home freezers. Since these will be offered at a relatively low price, as compared to larger models, it is probable that the immediate demand will be for such small freezers."

"On the other hand, a 4-cu. ft. freezer will only hold 100 to a maximum of 200 pounds of food. This quantity is small even for the small family. If the owner of a home freezer has a farm or a large garden, he will soon find that a 4 or 6-cu. ft. freezer is entirely inadequate."

"It is my opinion that farmers will want freezers of 24-cu. ft. capacity or larger."

In his talk Dr. Tressler discussed some aspects of home freezer design and performance, and also reported on the results of studies of "thawing out" of frozen foods and possibilities of their being "re-frozen" in a home freezer.

No Need to 'Quick-Freeze'

"Most manufacturers of home freezers state that food is 'quick frozen' in the cabinet," said Dr. Tressler. "Actually, this misrepresents the facts, since none of the home freezers will freeze foods as rapidly as they can be frozen by commercial quick freezing equipment."

"There is no necessity for quick freezing most foods in home freezing operations," the speaker averred. "Freezing at a rate comparable to that obtained in commercial sharp freezers is amply fast enough for foods packaged in small containers."

"Most persons think it is necessary to quick freeze vegetables in order to obtain a product of fair quality. This is not entirely true. What is important is to chill the vegetable rapidly down to the point where micro-organisms grow very slowly and chemical reactions are markedly retarded."

"If vegetables, fish, fruits, meats and poultry are chilled down to a temperature of below 50° F. prior to being placed in a freezer, micro-organisms will not grow with sufficient rapidity in a few hours to cause any great difficulty."

Overloading Big Danger

Greatest danger in home freezing is in overloading the cabinet, Dr. Tressler declared, since in such a case food may actually spoil before it is brought down below 32° F.

"Every home freezer manufacturer should include in his literature a statement as to the maximum quantity of fresh food which should be frozen in the cabinet at one time," he continued. "The basis for such a limit might be the number of pounds of food which, when placed in the cabinet at one time, will be reduced in temperature from 70° to 10° F. in not more than 24 hours with the cabinet operating in a 100° F. room."

"In small freezers such as ice cream cabinets with refrigerated liners, small quantities of foods (on the order of 15 lbs.) may be frozen satisfactorily by placing the packages on top of the stored products and in contact with the walls of the liner. Occasional freezing of this type does not seem to have any noticeable effect on the quality of the stored products."

To 'Speed Up' Freezing

Dr. Tressler said that two simple means of accelerating freezing have been suggested; one is the placing of a small fan in the freezer in such a position that it will cause a rapid movement of the cold air over the product being frozen.

"The rapid movement of air will decrease by about 50% the time required for freezing food at any given temperature," the speaker declared.

However, it should be noted, that if the fan motor is directly in the freezer compartment, the heat of the motor is deducted from the available refrigerating capacity of the unit. For example, a fan motor with 50 watts input generates about 170 B.t.u. of heat per hour.

The other way of speeding up freezing described by Dr. Tressler is that of placing the food to be frozen on a metal place in which a refrigerant is being circulated.

"Adequate storage temperature are just as important as proper freezing temperatures," Dr. Tressler asserted. "If the storage temperature is maintained much above 0° F. the fat of meats soon turns rancid, fruits gradually discolor, and both fruits and vegetables lose vitamin C rapidly."

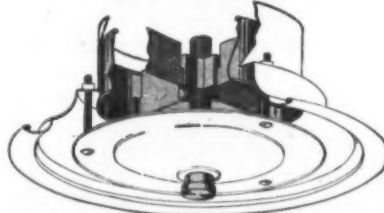
Dr. Tressler showed a graph which demonstrated that at -40° F. frozen peas lost no vitamin content over a 10 months' period; at 0° F. the loss was very slight, but at 15° F. the loss of vitamin content began almost immediately, and over a period of time was nearly complete.

(Continued on Page 27, Column 1)

KNO-DRAFT

PROVIDES MAXIMUM EFFICIENCY THROUGH
CONTROLLED AIR DIFFUSION

Any Desired Condition At
Your Finger Tip



KNO-DRAFT Type K Adjustable Air
Diffuser With Type D Volume Damper
Patented

Write For Descriptive Folder A.

W. B. CONNOR ENGINEERING CORP.

114 East 32nd Street



New York 16, N. Y.

Put New Light on Frozen Food Problems



These men were the principals in the session on "home freezers" which played to an "S.R.O." audience at the recent American Society of Refrigerating Engineers convention. Left to right are: Dr. Donald K. Tressler, General Electric Co., widely known writer and research authority on quick freezing; Prof. J. E. Nicholas, Penn State College, who operates the college's well known laboratory for testing freezing equipment; and John F. Stone, manager of the Refrigeration Division of Johns-Manville, and incoming president of the A.S.R.E.

Don't Worry Too Much About Dangers of Frozen Food Thawing, Says Dr. Tressler

(Continued from Page 26, Column 5)

The speaker said that the Rural Electrical Administration has suggested tentative functional specifications for "home freezer and storage chests" of 20-cu. ft. capacity. These specifications describe a top opening chest with 5-cu. ft. compartment for freezing, and the rest for storage space.

It is suggested that the dimensions be such as to permit passage through a 30-inch doorway. It is required that the unit be equipped with an automatic temperature control adjustable within a range of approximately -20° and 20° F. to control the storage compartment.

REA Standards for Controls

It is specified that the control be capable of maintaining the temperature of the storage compartment within 2° plus or minus of the temperature at which it is set when sharp freezing is being done. Further requirements are that the freezer be capable of freezing 45 pounds of water placed in 47 closed pint waxed cup containers in 14 hours when the ambient temperature is 80° F. When the ambient temperature is 80° F., it should be possible to maintain a temperature of 0° F., plus or minus 2° F., with an average energy consumption of 3.75 kwh. per 24 hours.

The compressor must be air cooled and readily accessible for cooling. The motor shall not exceed 1/2 hp. in size, shall be of the capacitor type, and shall be suitable for single-phase, 60-cycle 120-240 volt service, and shall be protected by a suitable overload device.

It is finally specified that the seller shall supply complete descrip-

tive material, give a guarantee of, and provide data showing the performance of the freezer.

"Obviously, these functional specifications are applicable only to one type of 20-cu. ft. chest-type cabinet," commented Dr. Tressler.

Need For Capacity Rating

"The need for standard methods of rating is well illustrated by a current advertisement which states that the low temperature section of a refrigerator has a capacity for storing two bushels of frozen food at a temperature 22° below freezing. Now you decide just what that means!

"In addition to a storage capacity rating in cubic feet, it may be desirable to have a rating in terms of pounds of food," continued Dr. Tressler.

"If meat or fish fillets are packed in rectangular or cubical cartons and if the cartons fit the cabinet perfectly, approximately 50 pounds may be stored per cubic foot. Under the same conditions 1 cu. ft. will hold 30 to 35 pounds of vegetables. If cylindrical or cup type cartons are used, only about 25 pounds of vegetables will go in a cubic foot.

"The industry might well standardize on a basic rating of 40 pounds per cubic foot."

Dr. Tressler declared that the committee of the National Electrical Manufacturers Association is studying the rating of home freezers and that the American Society of Agricultural Engineers Committee on Agricultural Refrigeration is working on standard test procedures for farm freezers and storage cabinets.

How Quality Is Maintained

According to Dr. Tressler, the average quality of the food frozen in the cabinets now in use is excellent. The reason for this, he said, is that the person doing home freezing had the advantage of being able to be more critical of quality than the commercial freezer who must process many tons of food daily.

The housewife freezing foods in her home is only handling a small quantity of food at a time and consequently should be able to get the right variety and to prepare and freeze it with a minimum of delay.

While the dangers from power and mechanical failures in connection with the operation of the home freezer are not nearly so great as many people are inclined to think, said Dr. Tressler, nevertheless the matter rates serious consideration and the public should be informed concerning the facts.

There are a number of factors that affect the length of time that the current for the refrigerating system may be off before frozen products begin to thaw. Among these are size of freezer, quantity of food stored, amount of insulation, and ambient temperatures.

Experiments reported by Dr. Tressler showed that food in a well-filled 2-cu. ft. cabinet did not thaw to any considerable extent until approximately 72 hours after the current was cut off. The upper layer of packages did not rise above 32° F. until 96 hours had elapsed, even though the ambient temperature was 80° F. Bottom layer of packages took more than 120 hours to thaw.

According to Dr. Tressler, food

(Concluded on Page 28, Column 4)



HERE'S YOUR
FUTURE'S MOST PROFITABLE
Sales Leader

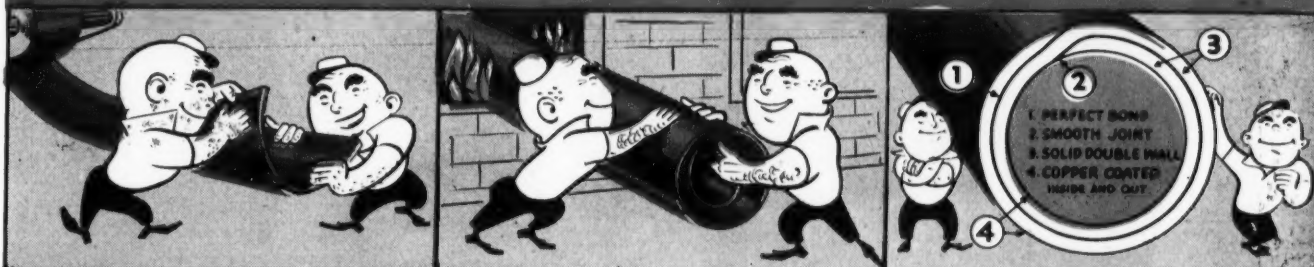
THE NEW BEN-HUR FARM AND HOME FREEZER

500,000 Home Freezer units a year — that's the future market open to you with the BEN-HUR Farm and Home Freezer. Laboratory tested — a product of foremost refrigeration engineers and industrial designers — there will be a complete line of BEN-HUR Farm & Home Freezers to fit every need. Check the waiting market for home freezing and frozen storage in your community. Then write for facts regarding a BEN-HUR distributorship.

BEN-HUR MANUFACTURING CO.
534 EAST KEEFE AVENUE • MILWAUKEE 12, WIS.

BEN-HUR FARM LOCKER PLANTS

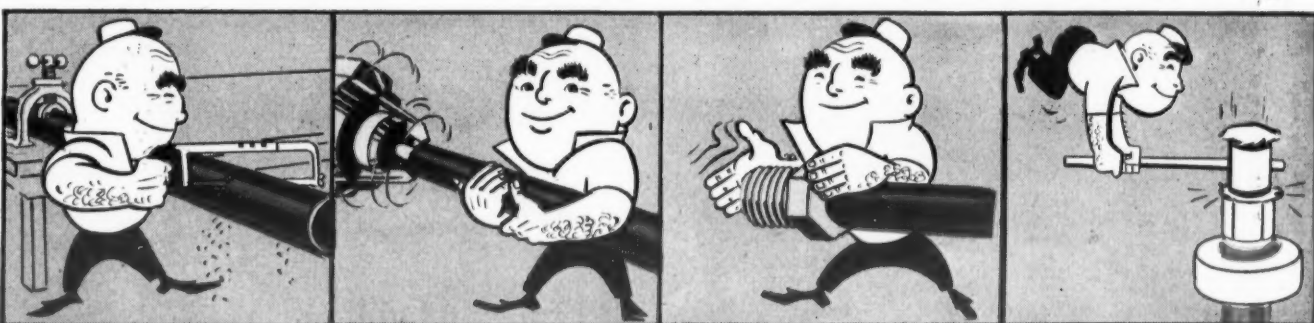
FABRICATING A TYPICAL BUNDYWELD LIFE LINE



1 The Bundyweld Steel Tubing is made by a process entirely different from that used in the making of any other tubing. A single strip of copper-coated S.A.E. 1010 steel is continuously rolled twice around laterally into tubular form.

2 Walls of uniform thickness and concentricity are assured by the use of close tolerance cold rolled strip. This double rolled strip is next passed through a brazing furnace where the copper coating fuses and alloys with the double steel walls.

3 After brazing and cooling, the tubing has become a perfectly bonded SOLID double wall steel tube, completely copper brazed throughout 360° of wall contact, copper coated inside and out, free from scale and closely held to dimensions.

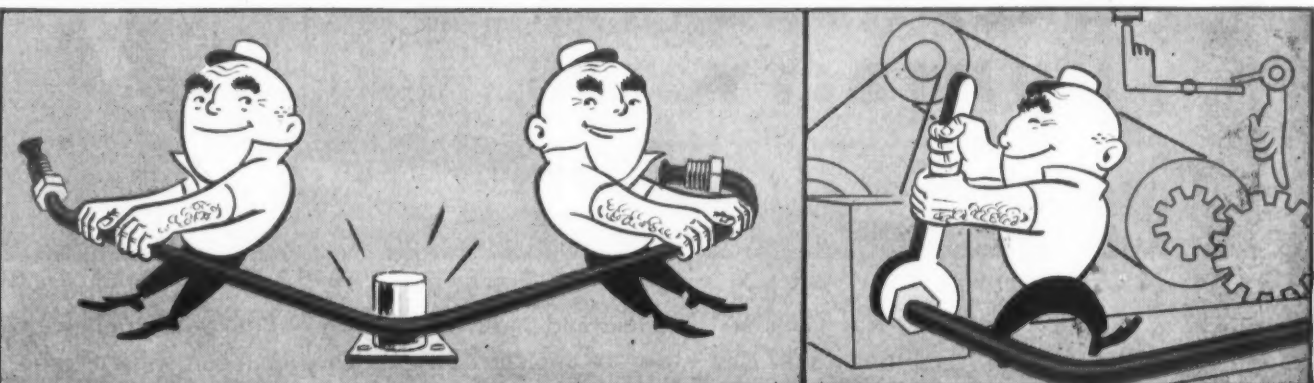


4 The next step in fabrication of a Bundyweld part is cutting to length, which is done at the Bundy plant on a circular saw, or, in the field, with any tube cutter which may be available.

5 The ends of the tube are burred with a specially designed tool with cutting edges of high speed steel which removes both inside and outside burrs in one operation.

6 Next, fittings are assembled. Any of the standard flare, compression type or soldered fittings may be used. Where flare type fittings are used, the Bundy Double Flare is recommended.

7 The Bundy Double Flare, which has been adopted as a standard by the S. A. E., safely permits frequent removal and replacement of fittings, as well as over-torquing.



8 The last operation in fabrication is bending to shape. Last and most important . . . 9 The Bundyweld part is installed on your product.

Bundyweld Steel Tubing is furnished hard or annealed in standard diameters and gauges up to 5/8" O. D. Special sizes cold drawn as desired.

Bundyweld is also furnished in Monel. For complete information, contact our nearest representative or write Bundy Tubing Co., Detroit 13.

BUNDY TUBING



BUNDY TUBING DISTRIBUTORS AND REPRESENTATIVES:


Pacific Metals Company, Ltd. 3100 19th Street San Francisco 10, California
Standard Tube Sales Corp. 1 Admiral Avenue Maspeth, New York City, N. Y.
Lopham-Hickey Company 3333 W. 47th Place Chicago 32, Illinois
Rutan & Company 112 South 16th Street Philadelphia 2, Pennsylvania
Eagle Metals Company 3628 East Marginal Way Seattle 4, Washington

Superior QUALITY FITTINGS

... designed especially for use in refrigerating systems where they must withstand wide fluctuations in temperature, plus considerable vibration. Machined from brass forgings and relief-annealed extruded brass rod to assure uniform density — maximum strength — freedom from season cracking — total absence of seepage leaks.

All threads machined to medium fit (SAE Class 3). Flare threads and faces protected by cardboard ferrules. SUPERIOR QUALITY FITTINGS are recommended for, and used extensively by, refrigeration, machine tool, marine, refining, liquefied petroleum gas, and many other industries.

Standard of the Industry



Size	Weight	Material	Finish	Notes
1/8"	0.05	Brass	Polished	
1/4"	0.10	Brass	Polished	
3/8"	0.15	Brass	Polished	
1/2"	0.20	Brass	Polished	
3/4"	0.30	Brass	Polished	
1"	0.40	Brass	Polished	
1 1/4"	0.60	Brass	Polished	
1 1/2"	0.70	Brass	Polished	
2"	0.90	Brass	Polished	
2 1/2"	1.20	Brass	Polished	
3"	1.50	Brass	Polished	
3 1/2"	1.80	Brass	Polished	
4"	2.10	Brass	Polished	
4 1/2"	2.40	Brass	Polished	
5"	2.70	Brass	Polished	
5 1/2"	3.00	Brass	Polished	
6"	3.30	Brass	Polished	
6 1/2"	3.60	Brass	Polished	
7"	3.90	Brass	Polished	
7 1/2"	4.20	Brass	Polished	
8"	4.50	Brass	Polished	
8 1/2"	4.80	Brass	Polished	
9"	5.10	Brass	Polished	
9 1/2"	5.40	Brass	Polished	
10"	5.70	Brass	Polished	
10 1/2"	6.00	Brass	Polished	
11"	6.30	Brass	Polished	
11 1/2"	6.60	Brass	Polished	
12"	6.90	Brass	Polished	
12 1/2"	7.20	Brass	Polished	
13"	7.50	Brass	Polished	
13 1/2"	7.80	Brass	Polished	
14"	8.10	Brass	Polished	
14 1/2"	8.40	Brass	Polished	
15"	8.70	Brass	Polished	
15 1/2"	9.00	Brass	Polished	
16"	9.30	Brass	Polished	
16 1/2"	9.60	Brass	Polished	
17"	9.90	Brass	Polished	
17 1/2"	10.20	Brass	Polished	
18"	10.50	Brass	Polished	
18 1/2"	10.80	Brass	Polished	
19"	11.10	Brass	Polished	
19 1/2"	11.40	Brass	Polished	
20"	11.70	Brass	Polished	
20 1/2"	12.00	Brass	Polished	
21"	12.30	Brass	Polished	
21 1/2"	12.60	Brass	Polished	
22"	12.90	Brass	Polished	
22 1/2"	13.20	Brass	Polished	
23"	13.50	Brass	Polished	
23 1/2"	13.80	Brass	Polished	
24"	14.10	Brass	Polished	
24 1/2"	14.40	Brass	Polished	
25"	14.70	Brass	Polished	
25 1/2"	15.00	Brass	Polished	
26"	15.30	Brass	Polished	
26 1/2"	15.60	Brass	Polished	
27"	15.90	Brass	Polished	
27 1/2"	16.20	Brass	Polished	
28"	16.50	Brass	Polished	
28 1/2"	16.80	Brass	Polished	
29"	17.10	Brass	Polished	
29 1/2"	17.40	Brass	Polished	
30"	17.70	Brass	Polished	
30 1/2"	18.00	Brass	Polished	
31"	18.30	Brass	Polished	
31 1/2"	18.60	Brass	Polished	
32"	18.90	Brass	Polished	
32 1/2"	19.20	Brass	Polished	
33"	19.50	Brass	Polished	
33 1/2"	19.80	Brass	Polished	
34"	20.10	Brass	Polished	
34 1/2"	20.40	Brass	Polished	
35"	20.70	Brass	Polished	
35 1/2"	21.00	Brass	Polished	
36"	21.30	Brass	Polished	
36 1/2"	21.60	Brass	Polished	
37"	21.90	Brass	Polished	
37 1/2"	22.20	Brass	Polished	
38"	22.50	Brass	Polished	
38 1/2"	22.80	Brass	Polished	
39"	23.10	Brass	Polished	
39 1/2"	23.40	Brass	Polished	
40"	23.70	Brass	Polished	
40 1/2"	24.00	Brass	Polished	
41"	24.30	Brass	Polished	
41 1/2"	24.60	Brass	Polished	
42"	24.90	Brass	Polished	
42 1/2"	25.20	Brass	Polished	
43"	25.50	Brass	Polished	
43 1/2"	25.80	Brass	Polished	
44"	26.10	Brass	Polished	
44 1/2"	26.40	Brass	Polished	
45"	26.70	Brass	Polished	
45 1/2"	27.00	Brass	Polished	
46"	27.30	Brass	Polished	
46 1/2"	27.60	Brass	Polished	
47"	27.90	Brass	Polished	
47 1/2"	28.20	Brass	Polished	
48"	28.50	Brass	Polished	
48 1/2"	28.80	Brass	Polished	
49"	29.10	Brass	Polished	
49 1/2"	29.40	Brass	Polished	
50"	29.70	Brass	Polished	
50 1/2"	30.00	Brass	Polished	
51"	30.30	Brass	Polished	
51 1/2"	30.60	Brass	Polished	
52"	30.90	Brass	Polished	
52 1/2"	31.20	Brass	Polished	
53"	31.50	Brass	Polished	
53 1/2"	31.80	Brass	Polished	
54"	32.10	Brass	Polished	
54 1/2"	32.40	Brass	Polished	
55"	32.70	Brass	Polished	
55 1/2"	33.00	Brass	Polished	
56"	33.30	Brass	Polished	
56 1/2"	33.60	Brass	Polished	
57"	33.90	Brass	Polished	
57 1/2"	34.20	Brass	Polished	
58"	34.50	Brass	Polished	
58 1/2"	34.80	Brass	Polished	
59"	35.10	Brass	Polished	
59 1/2"	35.40	Brass	Polished	
60"	35.70	Brass	Polished	
60 1/2"	36.00	Brass	Polished	
61"	36.30	Brass	Polished	
61 1/2"	36.60	Brass	Polished	
62"	36.90	Brass	Polished	
62 1/2"	37.20	Brass	Polished	
63"	37.50	Brass	Polished	
63 1/2"	37.80	Brass	Polished	
64"	38.10	Brass	Polished	
64 1/2"	38.40	Brass	Polished	
65"	38.70	Brass	Polished	
65 1/2"	39.00	Brass	Polished	
66"	39.30	Brass	Polished	
66 1/2"	39.60	Brass	Polished	
67"	39.90	Brass	Polished	
67 1/2"	40.20	Brass	Polished	
68"	40.50	Brass	Polished	
68 1/2"	40.80	Brass	Polished	
69"	41.10	Brass	Polished	
69 1/2"	41.40	Brass	Polished	
70"	41.70	Brass	Polished	
70 1/2"	42.00	Brass	Polished	
71"	42.30	Brass	Polished	
71 1/2"	42.60	Brass	Polished	
72"	42.90	Brass	Polished	
72 1/2"	43.20	Brass	Polished	
73"	43.50	Brass	Polished	
73 1/2"	43.80	Brass	Polished	
74"	44.10	Brass	Polished	
74 1/2"	44.40	Brass	Polished	
75"	44.70	Brass	Polished	
75 1/2"	45.00	Brass	Polished	
76"	45.30	Brass	Polished	
76 1/2"	45.60	Brass	Polished	
77"	45.90	Brass	Polished	
77 1/2"	46.20	Brass	Polished	
78"	46.50	Brass	Polished	
78 1/2"	46.80	Brass	Polished	
79"	47.10	Brass	Polished	
79 1/2"	47.40	Brass	Polished	
80"	47.70	Brass	Polished	
80 1/2"	48.00	Brass	Polished	
81"	48.30	Brass	Polished	
81 1/2"	48.60	Brass	Polished	
82"	48.90	Brass	Polished	
82 1/2"	49.20	Brass	Polished	
83"	49.50	Brass	Polished	
83 1/2"	49.80	Brass	Polished	
84"	50.10	Brass	Polished	
84 1/2"	50.40	Brass	Polished	
85"	50.70	Brass	Polished	
85 1/2"	51.00	Brass	Polished	
86"	51.30	Brass	Polished	
86 1/2"	51.60	Brass	Polished	
87"	51.90	Brass	Polished	
87 1/2"	52.20	Brass	Polished	
88"	52.50	Brass	Polished	
88 1/2"	52.80	Brass	Polished	
89"	53.10	Brass	Polished	
89 1/2"	53.40	Brass	Polished	
90"	53.70	Brass	Polished	
90 1/2"	54.00	Brass	Polished	
91"	54.30	Brass	Polished	
91 1/2"	54.60	Brass	Polished	
92"	54.90	Brass	Polished	
92 1/2"	55.20	Brass	Polished	
93"	55.50	Brass	Polished	
93 1/2"	55.80	Brass	Polished	
94"	56.10	Brass	Polished	
94 1/2"	56.40	Brass	Polished	
95"	56.70	Brass	Polished	
95 1/2"	57.00	Brass	Polished	
96"	57.30	Brass	Polished	
96 1/2"	57.60	Brass	Polished	
97"	57.90	Brass	Polished	
97 1/2"	58.20	Brass	Polished	
98"	58.50	Brass	Polished	
98 1/2"	58.80	Brass	Polished	
99"	59.10	Brass	Polished	
99 1/2"	59.40	Brass	Polished	
100"	59.70	Brass	Polished	

IF YOU HAVEN'T A COPY OF CATALOG R2, REQUEST ONE TODAY

INTERCHANGEABLE PARTS

IN POST-WAR M&E CONDENSING UNITS



• A feature that supplements our previously announced simplification of valve plate and crankshaft. New M & E fractional H.P. models, including 1/4-1/3-1/2 & 3/4 H.P., will have interchangeable parts. This will be of great interest to both the user and distributor of M & E Compressors since it reduces essential inventory and further simplifies servicing.



Advance Inquiries Invited
MERCHANT & EVANS CO.
2035 WASHINGTON AVE., PHILA. 46, PA.

CONDENSING UNITS • FIN-TYPE COIL PRODUCTS PLANT: Lancaster, Pa.

Back the Attack — Buy War Bonds

UNIT COOLERS

Prevent Dehydration with BALANCED HUMIDITY

PLATE COILS



O-Kay Coils are designed and built by men who know your application problems. O-Kay Coils are engineered right. They maintain a balance between the moisture level of the air and the water content of the products—to prevent dehydration in all types of cooling applications. They represent the combined experience of men who have spent many years in the refrigeration industry. Many new features reveal a marked advance in coil design. Investigate O-Kay Coils—the finest cooling devices available to the refrigeration industry! Write Kay today!

O-KAY COILS

KAY PRODUCTS COMPANY • Division of Tyler Fixture Corp. • NILES, MICHIGAN

Power Failure Need Not Be a 'Bugaboo' for Home Freezer User

(Concluded from Page 27, Column 3)
held in larger cabinets (12 to 36-cu. ft. capacity) would hold frozen foods for somewhat longer periods before thawing would be noted.

"Even in the summer it is doubtful if the food in any part of a nearly full, well-insulated 24-cu. ft. cabinet would begin to spoil in less than five days after the current was cut off," he asserted.

The speaker then turned to a consideration of the problem of what to do with home frozen foods that had thawed after the refrigerating system had not operated over a period of time. Should they all be thrown out?

This problem would have to be considered by type of product, Dr. Tressler pointed out. Fruits ferment when they spoil, and while their flavor will probably be ruined by fermentation, they will not become poisonous, said Dr. Tressler.

"Even if they are badly fermented, the worst that can happen is that the juice will become about as intoxicating as new wine," declared Dr. Tressler. "Assuming that they are not to be sold, there is no reason why thawed fruits should not be refrozen for consumption later."

"If the housewife is at all in doubt about the quality of the thawed fruits and does not wish to serve them on her table, she can make them into jams, jellies, and preserves of high quality."

Meats, poultry, and fish are not acid and consequently are subject to putrefactive spoilage. Thus, it is wise to examine each package carefully before deciding what to do with it.

If the packages still contain some ice, advised Dr. Tressler, they may be refrozen without risk. If the products have completely thawed, but the temperature of the contents is still below 50° F., it is probable that they are in good condition.

Generally spoilage of these foods can be determined by noting their odor; if the products smell "fresh" rather than "sour" they may be cooked and eaten without risk. In such cases, it is good policy to cook such foods thoroughly rather than to eat them while they are still rare. If the quantity of foods thawed is so great that they cannot be immediately consumed, they may be refrozen—if the temperature of the product has not gone above 50° F.

"In refreezing foods, it is poor policy to attempt to freeze a large quantity at one time in a freezing cabinet," Dr. Tressler warned. "The freezing capacity of home freezers is limited by the size of the compressor and the horsepower of the motor. Further, it is very difficult to freeze foods solidly packed in a frozen food cabinet."

"Because of this, it is wise to remove all of the products from the cabinet, and take them either to a locker plant or to a commercial cold storage plant for freezing. After their temperature has been quickly brought down to 0° F., they may be returned to the home freezer."

Don't Refreeze Vegetables

It is probably the best policy not

to refreeze either vegetables or shellfish (shrimps, crabs, lobster, oysters, and clams) because even at 50° F. bacteria multiply relatively rapidly in these products.

In connection with this matter of emergencies caused by electrical or mechanical failure, Dr. Tressler told how the hurricane along the New England coast of Sept. 14 had presented an opportunity to study the effect of power "outages" of periods of as long as seven days, on users of home freezers.

A questionnaire was addressed to officials of electric power companies supplying the New England area, requesting information on complaints received from customers, and what the utilities did to alleviate the situation.

In only two instances was frozen food actually known to have been lost, the replies showed. In cases where the power was off for more than 48 hours, the companies suggested that the customers obtain dry ice.

"It would seem wise," commented Dr. Tressler, "for each utility supplying power to owners of home freezers to get a list of his customers operating food freezing or storage equipment and note the type of equipment owned by each. Then when a power outage occurs, he can notify each customer of the probable duration of the outage and indicate what, if anything, should be done about it."

"If the current may be off for longer than 48 hours, the customer should be advised where he may obtain dry ice or where he may be able to store his products at low temperatures until current is again available."

'Forget Gadgets' Says McCoy

In the discussion following Dr. Tressler's paper, D. J. McCoy, of Frigidaire, said that manufacturers should "sell freezing as a method of food preservation, and forget the gadgets."

"There's too much stressing now of selling the smaller cabinets," Mr. McCoy continued. "It's up to the sales department to see that the buyers get the kind and size of a cabinet that will be satisfactory."

"Don't let's worry about costs. Competition will drive down first costs, and power charges are relatively low."

"We must do everything possible to provide education on food technology for users."

Dr. Tressler was questioned as to the thickness of insulation on the freezers in which the "thawing out" experiments were conducted. He reported that the 2-cu. ft. model had 3½ inches of insulation; and the 24-cu. ft. model had 5 inches of insulation.

Prof. J. E. Nicholas of Penn State College engaged Dr. Tressler in a discussion of the probable capacity per cubic foot of storage freezers. In his opinion the capacity was nearer 25 lbs. per cu. ft. rather than 40 lbs. Both were agreed that about 75% utilization of the cubic foot content is probably all that can be realized.

AT YOUR SERVICE

Acme products are backed by more than 26 years experience in building refrigeration and air conditioning equipment. Our engineering staff is at your service. Offices in principal cities. See your phone book... or write.

Acme equipment is delivering satisfactory performance in thousands of installations.

ACME INDUSTRIES
JACKSON-MICHIGAN



FREON CONDENSERS
OIL SEPARATORS
LIQUID RECEIVERS
HEAT EXCHANGERS
AMMONIA CONDENSERS
DRY-EX WATER COOLERS
HI-PEAK WATER COOLERS
FLOODED WATER COOLERS
EVAPORATIVE CONDENSERS
FORCED CONVECTION UNITS
PIPE COILS

Write for catalog on any item.

Frigidaire's View on 'Just Looking' Idea Takes Los Angeles Post Market Predictions Pervades Big Crowd For Freezers Given Attending 'Mart'

(Concluded from Page 1, Column 4)
widely divided estimates." Frigidaire's own surveys indicated a probable potential of between 350 and 400,000 units per year in the post-war period and if these figures are anywhere near accurate, there is sure to be some pretty hectic competition between the 132 manufacturers who have indicated that they will produce home freezers.

Price, of course, will be an important factor and although accurate figures cannot be determined at this time, Mr. Bratten indicated that the price of Frigidaire's home freezer would be approximately the same as that of a good household refrigerator. "We all know how price, performance, and volume have gone hand in hand in the household refrigerator field," said Mr. Bratten. "We believe it no more than reasonable to expect that the same principles will apply in the home freezer field. Quality and performance are especially important here because of the substantial investment users have in products stored in home freezers."

In referring again to the extent of the potential market, Mr. Bratten emphasized the difficulty of forecasting with any degree of accuracy how the demand for home freezers will be affected when food rationing is ended and the food distributing industry puts some of its own postwar plans into effect. Much will depend upon the availability of high grade frozen foods and the willingness of the housewife to learn and carry out techniques required to get satisfactory results when original freezing is done in the home, he believes. "Another important factor will be the planning conferences that the average family will have before making purchases in the postwar world," said Mr. Bratten. "Today when so few items can be purchased, Mr. and Mrs. America are rather free in agreeing what they will buy when these are again available. However, when such products do become available, it is a pretty safe bet that the family will buy first what it needs and wants most."

(Concluded from Page 1, Column 4)
ances, and manufacturers for the most part weren't guaranteeing much in the way of delivery on these items.

The following is a resume of the display themes of the large appliance firms who displayed:

Nash-Kelvinator. Color placards playing up one theme: backgrounds and arrangements for appliances on the dealer's floor. The layouts went into detail on color and placement contracts, and effective arrangements in complete dealer floor layouts.

Frigidaire. Eye-catcher was a revolving stage with miniature models marking different stages of development of the Frigidaire, from a 1913 model with the unit on the top, to the 1942 model. In sales aids and dealer planning, service training and facilities, the emphasis was on visual display, the new "viso-trainer" for refrigeration repairmen being prominent.

General Electric. Emphasis was on postwar kitchen design. Two revolving stages, each under a plexiglas bubble, showed various kitchen arrangements. Two products were shown—the electric-heat blanket, and a magnetic wire recorder.

Westinghouse. A display of its prewar appliance line. The "Laundromat" was given the spotlight, with units in operation. Display had effective color and lighting effects.

Admiral. Showed its George Walker-designed model store, done in miniatures. Buyers were given information on Admiral's "Flex-o-Plan" for store remodeling, wherein the dealer cuts out the outline of his floor plan on a squared-off sheet, then uses the scale-model miniatures of the appliances to experiment with different floor layouts, until he gets the one that best suits his setups.

Norge. Plenty of evidence that Norge will have a full-appliance line, but emphasis now is on ranges, which Norge is now producing under WPB quotas.



S. B. MAHER
Who has been appointed manager of General Electric's distributing branch in Los Angeles. He has been with G-E since 1943, before that having been associated with R. Cooper, Jr., Chicago distributor, since 1930.

Detroit Dealer To Add 12 More Branch Stores

DETROIT—A minimum of 12 appliance stores will be added to the chain operated here by Good House-keeping Shops by 1947, it was announced recently. Three outlets now comprise the chain, and leases for nine of the proposed stores have been signed.

THE SYMBOL OF
Modern
REFRIGERATION
CONTROL

MODERNIZE YOUR REFRIGERATION SYSTEM
WITH **POLARTRON** Temperature
CONTROL
MINNEAPOLIS - HONEYWELL REGULATOR CO.

VISOLEAK FINDS 'EM

HARD TO FIND
REFRIGERANT LEAKS ARE
NO MYSTERY TO ME

RED SPOT FURNISHES CLUE TO REFRIGERANT LEAK DETECTION

VISOLEAK is a finely-treated colored refrigerant oil which penetrates every nook and cranny of the system. The leak is indicated by a red stain—similar to the discoloration on a carburetor in which ethyl gasoline has been used. Can be used safely and effectively with any type of refrigerant. See your jobber today. If he has not stocked Visoleak write for complete information.

WESTERN THERMAL EQUIPMENT CO.
5141 ANGELES VISTA BLVD.
LOS ANGELES 43, CALIF.

WHOLESALE PRICES		CASE LOTS	
4 ounce bottle	\$ 1.00	48 bottles	SAVE 10% ON CASE LOTS
8 ounce bottle	1.75	24 bottles	
1 pint bottle	3.00	12 bottles	
1 quart bottle	5.00	6 cans	
1 gallon can	16.00		

COLD FACTS BY **ANSUL**

I WISH YOU'D HURRY UP AND GET THAT OUT OF THE ICE... WE'RE HAVING MR. AND MRS. UGH FOR SUPPER...

PREHISTORIC MAN EARLY FOUND THAT COLD SLOWS UP DECAY-- AND LIKE THE MODERN ESKIMO BURIED SURPLUS MEAT UNDER DEEP SNOW IN WINTER.

MODERN MAN REQUIRES YEAR-ROUND DEPENDABILITY-- AND THAT MEANS ALWAYS-RELIABLE REFRIGERANTS LIKE **ANSUL LIQUID SULFUR DIOXIDE** AND **ANSUL LIQUID METHYL CHLORIDE** IMMEDIATELY AVAILABLE.

Our technical book, "Ansul Refrigerants" (3¢) available upon request

Ansul Chemical Company, MARINETTE, WIS.
"Now in our 30th year"

AGENTS FOR KINETIC'S "FREON -11," "FREON -12" AND "FREON -22"

Designers may disagree about
"AUTOMATIC FEATURES"

...but they all know a **CLOTHES DRIER**
MUST HAVE GOOD INSULATION

Among the new products being developed for Postwar Homes, one of the most interesting is the *Clothes Drier* (which we can assure you will look nothing like the picture above).

Smart looking and compact, the new Clothes Driers will fit perfectly into the laundry, kitchen or utility room. They'll do an excellent job. They'll save time and effort. And they'll be well-insulated (so we hear) so that the heat used in drying will be kept inside the cabinet where it belongs.

Good insulation will pay dividends, not only in keeping the heat from getting out into the room, but in making possible lower operating costs, always a big point with homemakers.

And if this insulation is Fiberglas*—and the odds are that it will be—you can stress the long, dependable and trouble-free service it will render. Being inorganic, Fiberglas is immune to rot and decay. Equally important, it is highly moisture resistant—picking up less than 1% by weight under extreme humidity

conditions—and dries out without harm. It won't corrode—nor is it corrosive to aluminum or steel in the presence of moisture. Best of all, it won't settle or disintegrate—but "stays put" for life even when subjected to severe vibration.

Yes, Fiberglas will be a swell feature to sell in Clothes Driers, just as it has been—and will be again—in many other Home Appliances. Owens-Corning Fiberglas Corp., 1848 Nicholas Bldg., Toledo 1, Ohio. In Canada, Fiberglas Canada Ltd., Oshawa, Ont.

FIBERGLAS THERMAL INSULATION
*T.M. Reg. U.S. Pat. Off.

KRAMER
Coolmaster
The UNIT COOLER
for Outstanding Performance



TRENTON, N. J.
KRAMER TRENTON CO. NEW JERSEY

PURD ELECTRIC WATER COOLERS

BRANCHES IN PRINCIPAL CITIES
MAIN OFFICE
440 LAFAYETTE ST.
New York 3, N. Y.

PURD FILTER CORP.
OF AMERICA

DRINKING WATER SPECIALISTS FOR 40 YEARS.



HUBBELL
YODER
REFRIGERATION PLATES

THE HUBBELL EVAPORATOR PLATE
Every square inch of surface is prime heat pick-up.

For Frozen Food Lockers, Deep Freeze Cabinets, Milk Coolers, Fruit and Vegetable Counters, etc. Write for complete information. It will pay you.

ENGINEERING SERVICE INC.
820 Standard Building • Cleveland, Ohio
Sole Agents for
YODER REFRIGERATION INC., Manufacturers

FOOD MUST BE CONSERVED

Refrigeration today is performing a vital service by guarding and preserving for future use, priceless food which might otherwise be wasted. Write for literature.

GENERAL REFRIGERATION DIVISION

Yates-American Machine Co., Beloit, Wis.



Lipman
AUTOMATIC REFRIGERATION




Keep 'em Running with
REFRIGERATION PARTS and SUPPLIES
from Headquarters

SEND FOR OUR CATALOG ON YOUR LETTERHEAD

THE HARRY ALTER CO.

1728 S. Michigan Ave.
Chicago, 16, Ill.

Two Big Warehouses
to Serve You

134 Lafayette St.
New York, 13, N. Y.

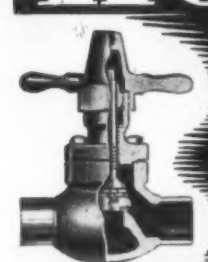
Henry Wing Cap Valve... TYPE 203

NON-FERROUS ALLOY MEETS GOVERNMENT SPECIFICATIONS

Solder connections machined directly in valve body. Has patented rotating self-aligning stem-disc. Resilient packing. Valve is back-sealing, permitting repacking under pressure. Wing cap can be inverted and its socket used to operate valve. Cap sealing on bonnet provides additional protection against leaks. Unrestricted flow.

For Freon and Methyl Chloride

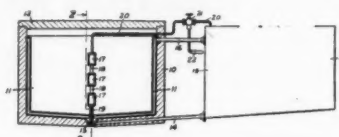
HENRY VALVE CO.
1001-15 N. SPAULDING AVE.
CHICAGO, ILLINOIS



PATENTS

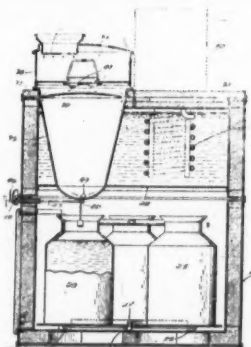
Weeks of Dec. 12 & 19

2,364,669. **APPARATUS FOR REFRIGERATION SYSTEMS.** William Albert Sisson, Elizabeth, N. J., assignor, by mesne assignments, to Cold Control, Inc., a corporation of Delaware. Application June 7, 1941, Serial No. 396,982. 6 Claims. (Cl. 62-91.5.)



1. A refrigerating system comprising insulated condenser means to hold a primary refrigerant, evaporator means external thereof, a connection between the bottom of the condenser means and the evaporator means for liquid flow therebetween, a connection between the top of the evaporator means and the condenser means for gaseous flow therebetween, a secondary refrigerant in the condenser means and evaporator means, a storage means within the insulated condenser means and connected with one of the aforesaid means adjacent the bottom thereof, a connection from the top of the storage means to the top of the evaporator means, and a thermostatically controlled valve in the last mentioned connection whereby upon closing of the valve gaseous secondary refrigerant is condensed in the storage means which draws liquid refrigerant into the storage means from the condenser and evaporator.

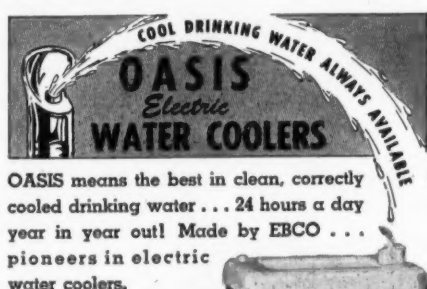
2,365,024. **MILK COOLER.** Chester A. Thomas, Crystal Lake, Ill., assignor to Babson Bros. Co., a corporation of Illinois. Application March 31, 1941, Serial No. 386,175. 7 Claims. (Cl. 31-4.)



OASIS
Electric WATER COOLERS

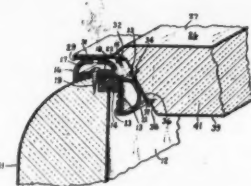
OASIS means the best in clean, correctly cooled drinking water... 24 hours a day year in year out! Made by EBCO... pioneers in electric water coolers.

EBCO Mfg. Co.
401 W. Town Street
Columbus, 8, Ohio



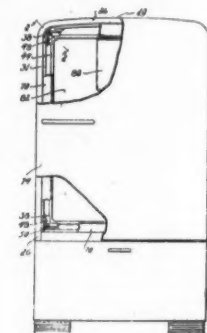
1. A milk cooler of the character described, comprising a unit including: a lower housing portion having its side and bottom walls heat insulated, and adapted to store a plurality of milk containers; an upper portion having its side and top walls heat insulated and its bottom heat conductive, said upper portion constituting a storage tank for a considerable quantity of liquid, the liquid being adapted to keep the lower portion cool by heat transfer through said bottom; means for keeping said liquid cold; and means for delivering fresh milk to one of the containers, said means having a substantial portion thereof disposed in the liquid and effecting a heat exchange between the milk and the liquid to rapidly cool the milk.
569 O. G.-21

2,365,231. **REFRIGERATION APPARATUS.** Evert S. Wegman, East Longmeadow, Mass., assignor to Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., a corporation of Pennsylvania. Application April 15, 1942, Serial No. 439,009. 3 Claims. (Cl. 220-9.)



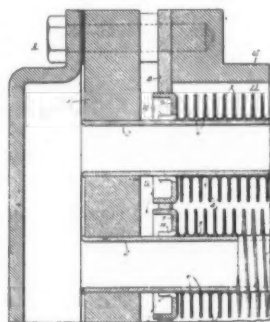
1. A gasket strip and mounting thereof to a refrigerator cabinet, said cabinet comprising a vertical wall defining a storage compartment and an access opening at the top thereof, said wall including an outer shell shaped to provide a substantially horizontal portion peripherally of the access opening and a turned-down flange at the inner extremity of said horizontal portion spaced from said wall toward the interior of said storage compartment, said gasket strip comprising a resilient continuous bead joined edge to edge to said first-named bead, and a continuous hook element joined edge to edge to said second bead, said gasket being secured to said cabinet by engagement of said hook element with the lower edge of said flange and by means securing said first-named bead to said substantially horizontal portion of the outer shell.

2,365,373. **REFRIGERATING APPARATUS.** George M. Armstrong, Grand Rapids, Mich., assignor to Nash-Kelvinator Corp., Detroit, Mich., a corporation of Maryland. Application Aug. 1, 1941, Serial No. 404,995. 4 Claims. (Cl. 220-15.)



1. In a refrigerator cabinet construction the combination with a casing and liner disposed within the casing, said casing and liner forming a substantially rectangular food compartment having a rectangular access opening at the front of the cabinet, said casing and liner having edge portions bent at an angle thereto and forming flanges which flanges extend toward each other in spaced relation and substantially surrounding said access opening, gusset members extending across the corners of said casing and secured to the flanges thereof, ears extending across the corners of the liner and secured to the flange of the liner and each ear being disposed across the face of a gusset, means for connecting the ears and gussets together for supporting the liner within the casing, and angular brackets disposed at the corners of the liner and secured to the outer wall thereof to the rear of said flanges, said brackets extending laterally from said liner into engagement with and secured to said ears substantially centrally of said ears for reinforcing the ears and flange of said liner.

2,365,515. **WATER COOLER.** Rene A. Baudry, Wilkesburg, Pa., assignor to Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., a corporation of Pennsylvania. Application June 10, 1943, Serial No. 490,289. 4 Claims. (Cl. 237-236.)



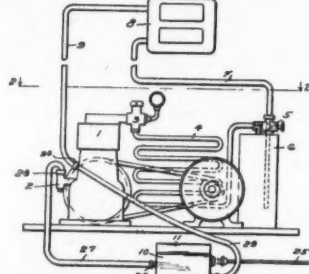
1. A heat-exchange unit having a header at each end, a series of liquid-conducting tubes between the headers, a finned heat-exchange tube on each liquid-conducting tube, each heat-exchange tube having a spiral fin formed integrally thereon as a part of the wall of the tube, the parts of the heat-exchange tube between the successive convolutions of its spiral fin being in good heat-exchange engagement with respect to the liquid-conducting tube, the spiral fin providing a small spiral duct between the heat-exchange tube and the liquid-conducting tube, each header having a main sheet-member to which the ends of the liquid-conducting tubes are joined, and at least one of the

headers having a spaced auxiliary sheet-member to which the ends of the heat-exchange tubes are joined, said auxiliary sheet-member providing communication from the several spiral ducts to the space between said auxiliary sheet-member and the main sheet-member of its header.

2,365,516. **REFRIGERANTS AND PROCESS OF MAKING THEM.** Anthony F. Benning, Woodstown, and Frederick B. Downing, Penns Grove, N. J., and Roy J. Plunkett, Wilmington, Del., assignors to Kinetic Chemicals, Inc., Wilmington, Del., a corporation of Delaware. No Drawing. Application July 10, 1940, Serial No. 344,666. 5 Claims. (Cl. 260-653.)

1. In the process of adding a hydrohalide of the group consisting of HCl and HBr to a halogen substituted ethylene containing 1 to 4 halogen atoms of which at least one is fluorine and the others are chlorine, the steps which comprise heating an anhydrous mixture of the hydrohalide and the halogen substituted ethylene at temperatures of from about 150° C. to about 400° C. in the presence of active carbon for sufficient time to produce a substantial amount of the addition product and then separating the addition product from the reaction mixture.

2,365,536. **DRIER FOR ELECTRIC REFRIGERATORS.** Glen C. Dean, Loyall, Ky., assignor of one-half to J. S. Greene, Harlan, Ky. Application July 10, 1941, Serial No. 401,858. 2 Claims. (Cl. 62-1.)



1. The combination with the elements of a refrigeration system including a compressor having a low and a high pressure side, respectively, an evaporator, a condenser coil connected to said high pressure side and to the inlet of said evaporator, and a return line connected to the outlet of said evaporator, of apparatus for introducing warm air into said circuit comprising a casing having an air inlet in the top thereof, an air discharge and an air inlet nipple on opposite sides of the casing, respectively, a conduit forming member in said casing having one end communicating with said discharge nipple and the other end thereof opening into the interior of the casing, electrically operative means for heating said conduit, and a pair of air lines connecting the discharge and inlet nipples to said low side of said compressor and return line, respectively.

Don Harris Appointed Southwestern Head for Westinghouse Radio

PITTSBURGH—R. Don Harris, veteran radio merchandiser, formerly with Philco and RCA, has been named southwestern district manager of the Radio Receiver Division, Westinghouse Electric & Mfg. Co., announces Harold B. Donley, division manager. Mr. Harris' territory will include Missouri, Arkansas, Oklahoma, Kansas, Colorado, New Mexico, Texas, and portions of Illinois and Tennessee.

He joined Philco in 1928, serving in various field executive capacities, and in 1940 shifted to RCA, first as middle west district field manager and later as manager of field procurements for war contracts in the Chicago and Camden (N. J.) districts.

Hotpoint Names Distributor For El Paso District


EL PASO, Tex.—El Paso Saw & Belting Supply Co. has been appointed wholesale distributor covering the El Paso wholesale district for Hotpoint household electrical appliances and commercial cooking appliances, effective immediately, reports Ward R. Schafer, general sales manager, Edison General Electric Appliance Co.

The Newest and Finest
ELECTRIC WaterCoolers

ALL SIZES FOR NAVY AND LAND USE

EXCLUSIVE DEALER FRANCHISE

THE REVELATION CO.
L. E. RABJOHN
2801 San Fernando Rd. Los Angeles 41, Calif.



Canadian Refrigeration Journal

The only publication servicing the industry in Canada

National Business Publications Limited
Gardenvale, Que. - Canada

NIAGARA
"NO-FROST" METHOD WITH SPRAY COOLERS

... gives always full capacity because there is no interruption for defrosting at sub-zero temperatures; protects quality in foods.

NIAGARA BLOWER COMPANY
25 Years of Service in Air Engineering
Dept. AC, 6 E. 48th St., New York 17, N. Y.



REFRIGERATION ENGINEERING Inc.
101 ANGELES - CALIFORNIA



By comparison—
You'll buy **PAR**
REFRIGERATION EQUIPMENT
WRITE FOR CATALOG
Lynch
MANUFACTURING CORPORATION
DEFIANCE, OHIO, U. S. A.

MARLO
COIL COMPANY
SAINT LOUIS, MISSOURI

MASTERCRAFT
ADJUSTABLE REFRIGERATOR PAD



NATIONALLY ENDORSED

Pad is adjustable to all makes and sizes of refrigerator cabinets; thoroughly protects finish of cabinet from scratches and marks during moving; easily and quickly put on or off; sturdy, lasting construction; easily pays for itself in a short time. Price \$11.75 each.

Attractive lettering of your name on pad at \$3.00 each extra.

For carrying your refrigerator more safely and easily, use the Mastercraft Adjustable Carrying Harness which is a separate unit from the pad and priced at \$8.50 each.

Write for complete folder and prices on pads for refrigerators, washers, ironers, ranges, radios; also furniture pads and protective covers. . . . All prices subject to change without notice.

BEARSE MANUFACTURING CO.
Incorporated 1921
3815-3825 Cortland St., Chicago 47, Illinois

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" \$2.50 per insertion. Limit 50 words.
 RATES for all other classifications \$5.00 per insertion. Limit 50 words.
 Advertisements set in usual classified style. Box addresses count as five words, other addresses by actual word count.
 PAYMENT in advance is required for advertising in this column.

EQUIPMENT FOR SALE

250 FRIGIDAIRE model "N," "W360," "W38," and "C." All with 110-220 V. 60 cycles. REP. IND. Motors. Remanufactured ice cream cabinets. Send for list and price. EDISON COOLING CO., 310 E. 149 St., New York 51, N. Y.

IMMEDIATE DELIVERY. 1/4 G. E. units, \$79.50; 1/2 G. E. units, \$99.50; 3/4 G. E. units, \$129.50. Send 25¢ with order—balance sight draft. Carry large stock food freezers and complete line blowers, display cases, reach-in coolers, walk-in coolers. Watch this publication for our postwar models, postwar set-up. COMPLETE REFRIGERATION SUPPLY, 96 Madison Ave., New York 16, N. Y.

ONE 15-H.P. Westinghouse Water Cooled "Froon" refrigerating Unit. 208 Volts. SMILEN BROS., INC., 47-02 Metropolitan Ave., Maspeth, L. I. Phone Mr. Waldman, Evergreen 7-1473 for an appointment.

REACH-INS: Porcelain self-contained and remote, all sizes. Complete stock of condensing units and diffusers. New 6-can milk coolers equipped with 1/4 H.P. General Electric compressors \$260. Walk-in

all-steel coolers. Immediate shipments. Phone Rittenhouse 6359 or write JORDON REFRIGERATOR CO., 235 N. Broad St., Philadelphia 7, Pa.

NINE HILL 6 ft. full vision cases. Complete with coils and shelves. Porcelain inside and outside. Look like new. Late models. FLEETWOOD SALES CO., 44 Hanson Place, Brooklyn 17, N. Y. Nevins 8-4171. Michael Goldstein.

ICE REFRIGERATED bottle coolers. Three-case capacity. Streamlined. All steel, heavily insulated. Casters. Also, for cooling fish, storing cracked ice, etc. Suitable for homes. \$18.00 net. F.O.B. Philadelphia. New. No Priority. Streamlined. 100 bottle capacity size, \$36.50 net. Convertible for mechanical operation. GENERAL REFRIGERATOR COMPANY, 5400 Eadom Street, Philadelphia 37, Pa.

POSITIONS AVAILABLE

CHIEF ENGINEER: Permanent position for experienced refrigeration engineer. Includes all phases of refrigeration application. Must be qualified to assume full responsibility of this interesting and important department. We are manufacturers of display and storage refrigerators; also, freezers and beverage coolers. State qualifications and salary expected. SHERER-GILLETT COMPANY, Marshall, Michigan.

ENGINEER, experienced in design and manufacture of refrigeration compressors and cabinets to expand old established business now chiefly on war work. When applying give full details as to education, experience, salary required. Apply Box 1660, Air Conditioning & Refrigeration News.

REFRIGERATION ENGINEER with design experience on small control units. Pleasant personality. Capable of discussing control problems with customers and carrying through on design to meet their requirements. Box 1646, Air Conditioning & Refrigeration News.

REFRIGERATION ENGINEER wanted by one of the leading refrigeration unit manufacturers with exceptional opportunity present and postwar. Must be able to do refrigeration laboratory work on commercial, open and sealed, condensing units and household cabinets. This position affords rapid advancement depending upon ability. Box 1656, Air Conditioning & Refrigeration News.

WANTED: Experienced refrigeration electrical gentleman to contact dealers. We are West Coast manufacturer's representatives and warehousing of commercial units and air conditioning. THE MAC SILVER CO., 547 S. Fairfax Ave., Los Angeles 36, Calif.

WANTED: By old established firm, experienced service mechanic preferably with executive ability to do own work for duration, later take full charge of service and installation commercial refrigeration and air conditioning 3 H.P. and up. Attractive salary. Permanent all year position. ATMOSPHERIC CONTROL CO., 716 Marquette Bldg., Detroit 26.

MAN INTERESTED in learning or acquainted with refrigeration parts to be salesman for well-established jobber in New Jersey territory. Give full details including age, experience, education, family, and salary required. Excellent opportunity for advancement for right man. Box 1661, Air Conditioning & Refrigeration News.

WANTED: Two experienced refrigeration service men. Commercial dealer. Permanent. Monthly salary basis. State age, experience, and salary expected. MILLER ENGINEERING CO., 118 North Winnebago St., Rockford, Ill.

SALES ENGINEER. Established Midwestern manufacturer of refrigeration accessories offers opportunity to young sales engineer to contact manufacturers and jobbers either in Middle West or East. Permanent position. Attractive salary. State experience and qualifications first letter. Box 1659, Air Conditioning & Refrigeration News.

ESTABLISHED COMMERCIAL refrigeration firm in Central Pennsylvania has need for service manager and service repairmen. Excellent opportunity for experienced men. Positions permanent. State experience and salary desired. Box 1662, Air Conditioning & Refrigeration News.

REFRIGERATION INSTRUCTOR wanted. With background of servicing many makes domestic and commercial refrigeration equipment. Opportunity to become associated with outstanding privately endowed non-profit trade school with expanding Refrigeration and Air Conditioning departments. Write to R. T. Craig, Assistant Director, DUNWOODY INDUSTRIAL INSTITUTE, 818 Wayzata Blvd., Minneapolis, Minn.

FRANCHISES WANTED

WE WISH to establish contact with men in various cities to act in the capacity of brokers for us in purchasing new and used refrigerating equipment, parts, cabinets, and allied electrical merchandise. Arrangements can be made reciprocal. Communicate with Mr. Shenker, 1250 Riverbed Ave., Cleveland, Ohio. Cherry 8170.

POSITIONS WANTED

ACCOUNTANT—Office Manager seeks connection with Appliance Distributor or Manufacturer. Over twenty years experience in managing and merchandising. Can take an active interest. Box 1658, Air Conditioning & Refrigeration News.

What's New

New Freezer Hardware April Showers Announces New Plan For Dealers



Designed specifically for use on chest type low temperature units, new hinge and latch hardware has been introduced by the National Lock Co. of Rockford, Ill. Latch is said to operate conveniently with one hand, leaving the other free to remove frozen foods. Off-set hinges hold the door open at an angle of 105°.

Franklin-McAllister Has Bagless Vacuum Unit

CHICAGO—Claimed to "launder" air condition, clean, and mothproof, a new bagless vacuum cleaner known as the McAllister System has been announced by Franklin-McAllister Corp. here.

The unit is said to wash as well as vacuum—clean rugs and overstuffed pieces. Such furnishings can be washed with any soap solution, rinsed, and then dried by the cleaner in half an hour, it is claimed.

A spray-gun attachment permits mothproofing with a government-approved chemical solution, it is said. The unit employs a more powerful motor than the conventional vacuum cleaner, thus gaining a high air movement, which can be used to aerate bedding, etc. with fresh, outside air.

It is planned to merchandise the unit, which will be priced around that of an ordinary cleaner, through appliance distributors, dealers, and department stores, according to H. J. McAllister, vice president of the firm.

Restyled Germicidal Lamp Introduced

ERIE, Pa.—A new model "Hyge-are" employing a General Electric Co. germicidal tube for air disinfection has been introduced by the American Sterilizer Co. here, and is being distributed by Graybar Electric Co. and G-E Supply Corp.

The new unit, which may be recessed into the wall or mounted on wall or ceiling, has been redesigned into a more attractive "streamlined" fixture, the company claims. A scientifically designed reflector provides both optimum intensity and diffusion of the ultra-violet rays that are lethal to air-borne bacteria, it is said.

Reduction of cross infection in offices and plants by use of this fixture should help industry combat absenteeism, particularly during winter months, it is claimed.

DOLE

VACUUM PLATE

COOLING and FREEZING UNITS

CHICAGO



The DEALER can now secure his full APRIL SHOWERS instructions by writing to us on letterhead or enclosing business card. We can ship without delay. "Introducing APRIL SHOWERS to Dealer" sent free. Address Dept. RN.

April Showers Company
 WASHINGTON 11, D. C.

For: TRUCKS, LOCKERS, COOLERS, COUNTERS
 AND CABINET CONVERSIONS, ETC.

KOLD-HOLD PLATES

KOLD-HOLD MFG. CO.
 LANSING, MICH., U.S.A.

GENUINE MAYFLOWER

CONDENSING UNITS AND PARTS

Jobber Inquiries Invited

A complete line backed by nearly a quarter century of user confidence. Write for prices.

MAYFLOWER PRODUCTS, INC.
 11 S. 3th St., Richmond, Ind.

REFRIGERATION PRODUCTS

Write for New Catalogue

LARKIN COILS, INC. 519 MEMORIAL DR., S. E., ATLANTA, GA.

STANGARD

PRIME SURFACE Cold Plates

FOR MAXIMUM EFFICIENT REFRIGERATION

★ For Locker Plants, Sharp Freezing, Ice Cream Cabinets, Hardening Rooms, Soda Fountains, Storage Rooms, Milk Coolers, Liquid Cooling, Food Counters and other similar uses.

Write us today for complete information and catalog.

Stangard Facilities are contributing to the production of materials for our National Defense.

THE STANGARD-DICKERSON CORP.
 46-76 Oliver Street, Newark, N. J.

Are You Getting Your Share of the Milk-Cooling Business?

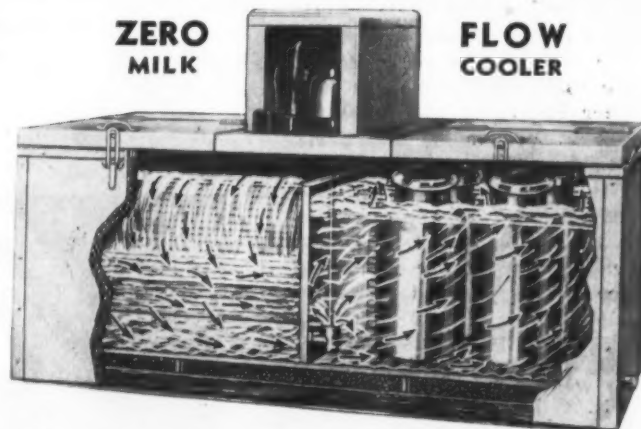
WILSON SYSTEMS OF MILK COOLING A TYPE FOR EVERY REQUIREMENT 1. ZEROFLOW MILK COOLER

The Wilson ZERO-FLOW Milk Cooler, in sizes to cool from 4 cans to 20 cans of milk daily, has set a high standard of milk-cooling speed, with economy and dependability throughout a long life. The 1944 ZERO-FLOW, engineered particularly for the use of refrigerating plates, continues the Wilson tradition of high performance in:

- RAPID AND UNIFORM COOLING
- MAXIMUM COOLING EFFICIENCY
- LOW COST OF OPERATION
- LIFE-TESTED CONSTRUCTION

If there is no Wilson Dealer near you... if you have an adequate sales-and-service organization... you can get your share of this tremendous business. Write NOW!

WILSON CABINET COMPANY
 COMMERCIAL REFRIGERATION
 SMYRNA DELAWARE



Model ZF8-HX50 Packaged-Unit

Representative Available

Manufacturers' representative, former production and sales executive in automotive and appliance industries, is now establishing headquarters in Detroit area. If you are seeking representation for sales to manufacturers in this territory, it will pay you to investigate this man's background, contacts, and abilities.

Box 1663, Air Conditioning & Refrigeration News

In the West it's REFRIGERATION SERVICE INC. Pacific Coast Supply Jobber since 1928

Your letterhead will bring our latest catalog—also our House Organ.

"The Liquid Line"

3109 Beverly Blvd.
 LOS ANGELES 4, CALIF.

INVENTORS - ENGINEERS

Old established manufacturer wants new ideas for use of finned tubing in refrigeration, cooling, heating, and air conditioning. Outright purchase or royalty. Box 1657, Air Conditioning & Refrigeration News.

Use CHICAGO SEALS for seal replacements

A complete line in all sizes

CHICAGO SEAL CO.
 20 North Wacker Dr., Chicago

1944 Refrigeration Supply Catalog

Sent on request

REFRIGERATION EQUIPMENT CO.
 101 E. 24th St., Kansas City 8, Mo.

REFRIGERATION PRODUCTS

fedders

BUFFALO, N. Y.

Send for Bulletins on Wagner ELECTRIC MOTORS

MU-182 and MU-183

Wagner Electric Corporation
 6471 Plymouth Ave., St. Louis 14, Mo., U.S.A.

UNIVERSAL COOLER

BRANTFORD ONTARIO

UNIVERSAL COOLER CORPORATION
 Automatic Refrigeration since 1922

Industry's Workers May Face Test of Reclassification as Draft Calls Increase

(Concluded from Page 1, Column 5)

Selective Service officials suggested that employers in essential businesses "would be wise" if they obtained occupational deferments for all employees now classified 4-F in order to keep them on the job.

Though Selective Service has not sent any formal notice on this point to employers, a spokesman said that it would be "a natural thing" for employers to want to obtain deferments which would tend to "freeze" 4-F's in their production places.

However, the danger to deferred registrants in the 26-37 age bracket is evidenced by such dispatches as the following, which comes from Washington:

"Local boards of the Selective Service, in considering reclassification of registrants under recent orders, are not obligated to consider previous lists of essential occupations drawn up by the War Manpower Commission.

"Selective Service officials explained that local boards may reclassify at any time any registrant without reference to his employment in a listed 'essential' industry.

"Under the procedure the boards have wide autonomy in deciding, in the light of area manpower conditions, whether registrants are in essential industry or are essential to an industry.

"Policy statements of the WMC might guide local boards, but cannot direct them in the consideration of classification of registrants. But it was pointed out that registrants could appeal from rulings of local boards."

For review purposes it may be well to outline the steps to be taken by a "refrigerator repairman" or a "refrigerator engineer" when he is reclassified 1-A.

Men in such occupations are on the "critical list" of occupations and are fully entitled to receive the consideration and have their case processed as provided in Local Draft Board Memorandum 115 and 115-B.

Here are some points to take into consideration with reference to the Memorandum 115-B:

(1) You can demand a processing of your case, if you are a qualified refrigeration repairman, under 115-B at any time from the time you receive notice of reclassification until you are actually inducted into the armed services. That is, you can take it to the State Selective Service Director at any time before you are sworn in.

(2) Experience is demonstrating, however, that the most practical procedure is to make all of the moves within the 10-day period specified for appeals following classification into 1-A. In other words:

(a) The individual reclassified 1-A asks for a personal appearance.

(b) The employer files form 42-A, if he hasn't done so, and specifically "appeals" the reclassification. (Note: in so doing, he must use the word "appeal" or otherwise it isn't strictly legal.)

(c) Either the employee or employer addresses a letter to the local board requesting that the case be processed in accordance with Memorandum 115-B.

This puts the entire case before

the board at once. An alert board will turn the case over immediately to U.S.E.S. for a determination of the man's qualifications. However, many boards apparently prefer to dispose of the personal hearing first, in which the individual can bring up both the personal and occupational qualifications for deferment.

If the individual is still in 1-A following his personal appearance before the board, he can still press for a processing of his case under 115-B, and the employer's appeal remains to be heard by the Appeal Board.

There are a couple of other considerations in making the request for the 115-B processing. It is now though advisable to notarize or send by registered mail the letter.

Furthermore, accompanying the letter should be a statement offering "prima facie" evidence that the individual is qualified under 115-B. A certification should be made as to the nature of the employment, the number of years worked, and the fact that the individual can do the various jobs described in the WMC description of a "refrigerator repairman." (Note: The following is the description of the job, and the repairman or employer should attest that the repairman can do each of the jobs as stated.)

(From "Definitions of Critical Occupations," a part of Local Board Memorandum No. 115.)

"Refrigeration Equipment Repairman, Gas or Electric, All Around—(Electric). Services, repairs, and installs electric refrigerators. Examines refrigerator installation, checking vacuum and pressure cooling unit with compound gauge, observing condition of electric motor, and generally inspecting parts to determine extent of repairs necessary; cleans dirt and lint from condenser with a brush; adds or removes refrigerant to adjust vacuum or pressure; replaces worn or broken parts, using simple hand tools; installs refrigerators.

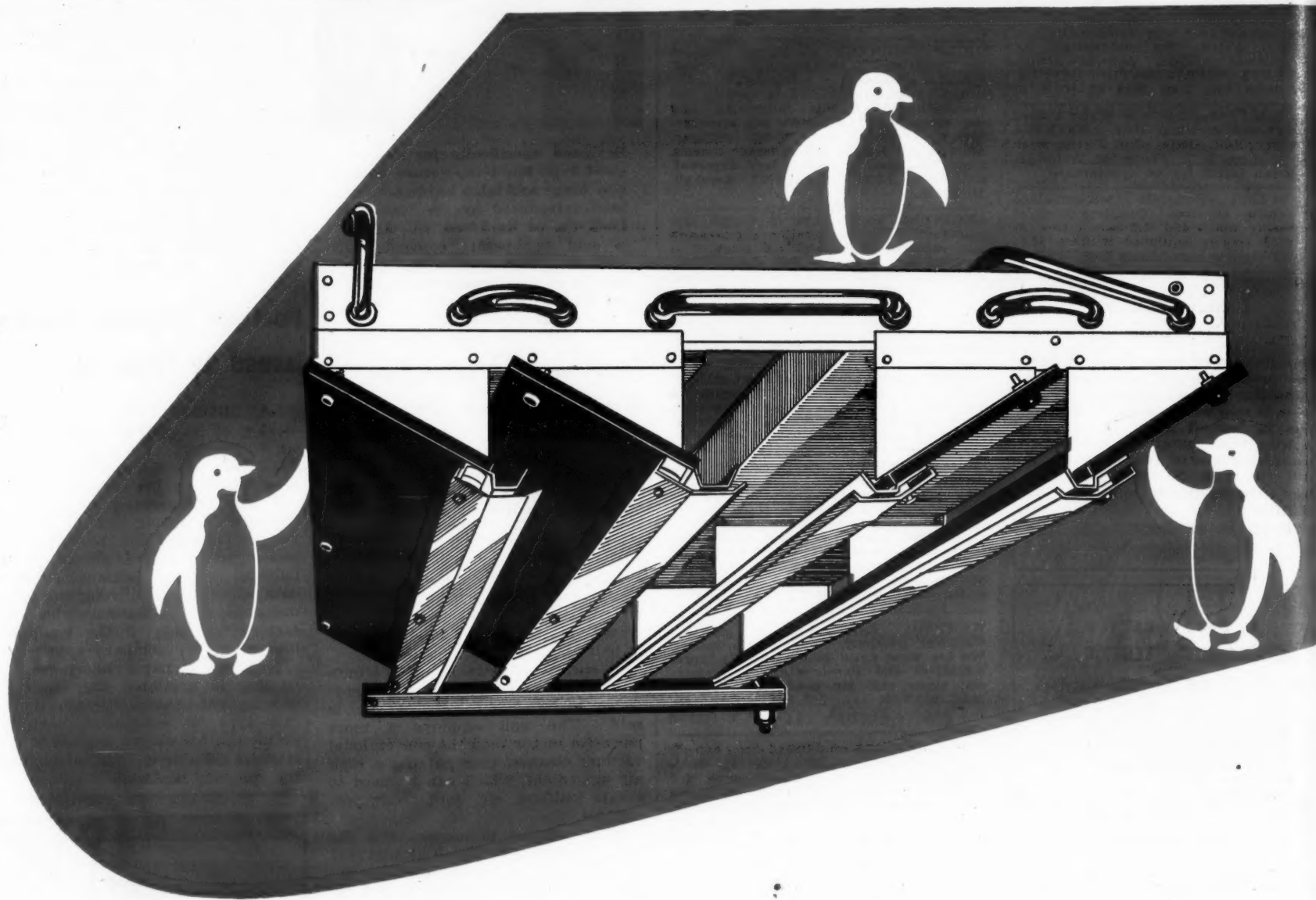
"(Gas). Services, repairs, and installs gas refrigerators, examines refrigerator installation, testing gas pressure by connecting a meter to intake pipe, and performing other similar duties; regulates gas flow by turning setscrew."

General Tire Plans Refrigerator Line

(Concluded from Page 1, Column 5) and bottling machinery for many years, plans to erect a new soda fountain factory across the street from the present plant at 3100 S. Kedzie Ave. here, and will add a wing to the main plant for its bottling division. Overall postwar plans of the firm include new gas and dry ice plants here and abroad.

A. & N. Firm Expands

CINCINNATI—Acquired at a price of \$41,500, a three-story stone building will be remodeled to serve as an annex for the A. & N. Appliance Co. here, announces William N. Appel, proprietor.



BUSH PLASTI-COOLER

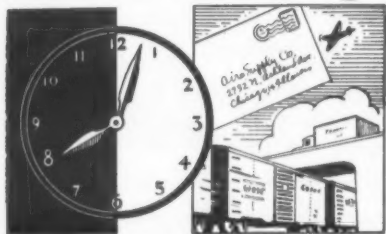
● NOW AVAILABLE ● FAST DELIVERIES

A noteworthy contribution by BUSH to the refrigeration industry, the BUSH PLASTI-COOLER combines the efficiency of the famed Bush Finned Coil with the proved advantages of sturdy plastics . . . the original application of plastics to the low side field. Coil features aluminum fins spaced $1/3"$ — $1/2"$ — $3/4"$ and copper tubing ($5/8"$ to 100 lin. feet — $3/4"$ over 100 lin. feet). Baffles of gleaming, jet-black plastics eliminate all sweating . . . enhance appearance. Scientifically calculated pitching insures maximum cold air discharge. A choice of widths is available for different box sizes. The BUSH PLASTI-COOLER is the most modern evaporator at any price. For advanced engineering . . . BUY BUSH. Other types also available . . . write for our latest Bulletin TODAY!

BUSH

BUSH MANUFACTURING CO.

HARTFORD CONN. · 415 LEXINGTON AVENUE NEW YORK · 549 W. WASHINGTON BLVD. CHICAGO



AROUND THE CLOCK SERVICE While you sleep—while you are out on profitable service calls—while you take care of other important business matters—tools, equipment, and parts ordered from AIRO speed on their way to you. No valuable time wasted waiting for counter service when you buy by mail from AIRO, the middle west jobber geared up to give nationwide service "around the clock."

AIRO SUPPLY CO. (NOT INC.)
Dept. B WHOLESALE ONLY
2732 N. Ashland Avenue
Chicago 14, Illinois